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A PROFILE OF COLOR T.V. SET HOUSEHOLDS

by

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CHAPTER I

INTRODUCTION

Purpose of Study

Before any of the tools of the marketer can be profitably applied, the up-to-date knowledge of the market demand by potential consumers is essential and deserves priority. The first idea that should come to the marketer's mind, in terms of a product or service, is the probable magnitude and composition of the total industry, ie. the primary demand.[1] (Demand, in the marketing sense, is usually referred to as total industry sales under current levels of price, advertising and distribution.) This, if put simply, is the size of the market which might significantly affect the product's future. However, the nature of this demand is often not clear through out the product's life. The properties of a product thus predetermine its market.

The development of a consumer profile for a new product and the attributes that influenced it, lent itself to the analysis of (1) the environmental climate, (2) the stage of the product life cycle, (3) the appraisal of consumers' characteristics, motivation and perception on the product, and (4) the factors that were most susceptible to influence the shape of the total demand curve. All

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[1] Brown, Cardozo, Cunningham, Salmon and Sultan, Problems in Marketing, McGraw-Hill Book Company, pp. 1-4.

these recognitions were dynamic and comprise some kind of conjecture in nature, but an accurate and relevant up-dated knowledge about the potential customers within a market segment, is the ultimate aim of any executive decision, and is no longer a luxury, but a necessity.

This situation seemed especially crucial to a product that was a recent addition to the market, i.e. a new product or an innovation. C.R. Wasson defined "All that is new in any product is the package of consumer-perceivable services embodied in it."[2] This was because, for an accepted product, the market has already been established, any fluctuation of demand was most probably due to consumer change in taste or employing substitutes, but for the relatively new product, it had to go through what was termed the "diffusion" process in which there is a complex mosaic of test conditions. E.M. Rogers cited four elements in the analysis of diffusion of innovations,[3] (technical innovations) and classified this innovative purchase behavior into four categories. Viewed in this perspective, the test should not be taken lightly as numerous ideas and products have failed, despite careful planning and costly publicity support. D.A. Schon dramatized

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[2] C.R. Wasson, "What is 'New' about a New Product", Journal of Marketing, Vol. 25, July 1960, pp. 53-6.

[3] E.M. Rogers, Diffusion of Innovations, The Free Press of Glencoe, 1962, pp. 12-19, 168-172.

the concept by saying:

> ".....products are vehicles for projection: what they are depends on how you see them. It is possible to see more, or less than their marketers intended..... This situation is never identical..... and apparantly trivial differences may turn out to be critical."[4]

Scope of the Study

Justification of the Study

In this paper, it was the intention of the author to develop a consumer profile of a relatively recent addition of a consumer durable good--color television in Hong Kong. The reason for this product choice was that, in the past decade, Hong Kong has been rapidly developing from an entrepot to an industrialized city. The economy has been able to leap from what has previously been termed "under-developed" to "developing". This was evidenced by facts such as increasing salary of white-collar workers, wages of blue-collar workers, and the surging demand for consumer and industrial goods. The consequence was an ever rising standard of living coupled with mild inflation--a benchmark of any society enjoying economic growth. On the whole, we could say, all symptoms of Hong Kong showed a general trend of improvement as exemplified by increased affluence. To quote some figures, the domestic exports increased from

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[4] D.A. Schon, Technology and Change, New York, Delaeorte Press, 1967, pp. 30-31.

$HK 2,867 million in 1960 to $HK 12,274 million in 1970, and at an estimated compound annual growth rate of 19% thereafter, was a feat unparalleled in the whole of South East Asia.[5] In Rostow's words, Hong Kong might well be "in a drive to maturity".[6]

But, why was color T.V. chosen? The one reason from the multitude of products that could be chosen was that consumer durable goods, like furniture, domestic appliances and automobiles seemed to be used former researchers in Hong Kong, and results on surveys had been published.[7] Even for black and white T.V., a study had been done in reference to retail channels, but not for color T.V., which was considered to be in the introductory stage of life cycle.[8] As a result, the Trade Statistics of Hong Kong on imports and re-exports made it a separate item of record starting in the year 1968. This assumption of newness coupled with the "leisure" nature in a product of this kind was especially suitable for a study of its physical and symbolic dimensions. Apart from this, another rationale

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5 Report for the Year, Hong Kong, Hong Kong Government Printer, 1960-1970.

6 Walt W. Rostow, The Stages of Economic Growth, Cambridge University Press 1961, pp. 9-10 and 59-72.

7 T.F. Chan, Some Aspects of the Demand for Furniture, MBA Thesis, Chinese University of Hong Kong 1967/68.

K.C. Mun, Hong Kong Manager, "Hong Kong's Drive for Maturity," July/August, 1971. pp. 10-16.

Y.K. Yeh, Distribution Channels in Refrigerators & Washing Machines in Hong Kong, MBA Thesis, Chinese University of of Hong Kong 1970/71.

8 K.C. Mun, op cit.

underlying the choice arose from the author's anticipation in some kind of a future shock in the color T.V. business, as revealed by the Government statistics. (See Table 4, Table 5 and Figure 7.) Thus it was hoped, there might be some contribution by making this survey, which would elicit some idea about a profile of a color T.V. set households. Interviews were conducted with present users and non-users to determine their socio-economic characteristics, their perceptions and what attributes influenced them in the adoption process. It was the author's desire to add information through a local empirical study about the "types of adoptors" concept towards a new product as asserted by Rogers. Presumably, the results of the finding, viz. the sketch of a consumer profile would serve to illuminate the attitudes and characteristics of a well defined market. Findings may serve importers and retailers as a reference to better their product policy and sharpen their tools of existing marketing skills by improving promotional activities.[9] To quote from J.W. Newman, the necessary assumption to be presupposed was "I can tell what they are like" and the implication was that "(prospective) consumers are like these people."[10]

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9 R.P. Coleman, Consumer Behavior: The Significance of Social Stratification in Selling, in Martin L. Bell (ed.) Marketing: A Maturing Discipline, Proceedings of the 1960 Winter Conference of the American Marketing Association. Chicago: AMA, 1961, pp. 171-184.

10 J.W. Newman, Motivation Research and Marketing Management, Boston, Graduate School of Business Adminstration, Harvard University, 1957. p. 5.
Word in brackets is addid in by author.

Working Hypothesis

A hypothesis was formulated as: Color T.V. set households differ both in the economic and non-economic aspects from that of non-color T.V. set households.

Under the premise of this hypothesis, the attributes in the adoption process (concept first developed by N. Gross and B. Ryan) would be the main theme, and were subjected to stimuli such as, the actor's identity and perception of the innovation.[11] Reference is made to H.G. Barnett who generalized the acceptance and rejection in the following three hypotheses:

> (i) An individual will bot accept a novelty unless in his opinion it satisfies a want better than some existing means at his disposal.
>
> (ii) People develop tastes and preferences under the influence of particular experiences; and these orientations are significant for the acceptance and rejection of new ideas. and,
>
> (iii) The effect of dissatisfaction or unsatisfaction may be a pervasive attitude in some individuals.[12]

Following the above approach, some individual hypothesis might include:

1. The perception of product attributes is different between color T.V. set households and non-color set households.

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[11] B. Ryan & N. Gross, "The Diffusion of Hybrid Seed Corn in Two Iowa Communities," Rural Sociology, VIII (March 1943), pp. 15-24.

[12] H.G. Barnett, Innovation: the Basis of Cultural Change, London, McGraw-Hill Co., 1953. Chapter XIV.

2. The influence of purchase is different between color set households and non-color set households.
3. The motivation to buy is different between color set households and non-color set households.
4. The dispositional and socio-economic characteristics are different between color set households and non-color T.V. households.

General Approach and Method

The study was in three parts. The first part concerned a review on the literature relating to demand for durable goods. This followed two different approaches: one was the economc theories on household behavior and the other was marketing frameworks. This brief review helped bring out an overall view of the major difference in methods between the appraoches. The choice of approach was merely a matter of predisposition of the researcher. It was pointless to cite whether one was superior to the other. The choice of approach depended on the information the researcher intended to elicit and partly on his preference in techniques.

The second part was statistical implication and some local development of T.V. in Hong Kong. It was simply a secondary search on economic data concerning the situation in Hong Kong. They were mostly available in Government

publications such as annual reports, departmental reports, trade statistics, and to a smaller extent, newspaper sources. This was extensive as possible, and served as a hint on the feasibility underlying future growth. In this part, a similar-product technique was used.[13] In so doing, we were able to observe how a black and white T.V. cumulative penetrating curve could place an upper bound on the future slaes of color T.V. if it were to have a similar S-curve. This was a logical approach in that if color T.V. was assumed to be an extention of the black and white T.V. with a color dimension, just like black and white T.V. was an extention of radio with the visual dimension. This provided some insight into the likelihood of success and sales potential. However, a causal relationship study was not undertaken. Secondly, the local T.V. development would be traced back to the time when it first appeared and the history of its various stages of development would be investigated on many fronts. This should give any reader a thorough idea on the role of T.V. as a local entertainment medium.

The third part was a consumer survey, which would be in the form of structure questionnaire design, detailed in Chapter IV. The details of the sampling technique are also in Chapter IV.

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[13] Chambers, Mullick & Smith, "How to Use the Right Forecasting Technique," Harvard Business Review, July/August 1971.

Some Limitations

This marketing problem, which was no exception to the rule, involved a considerable degree of prediction concerning the collective behavior of the market participants, of which two types of correlates were concerned: The behavioral and the non-behavioral.

In the second part of the study, a basic premise was that the relationship between the variables in the past behavior are assumed stable from the period of study to prediction. Retailers might have been useful in providing information on buyer behavior, but were rejected because it was not feasible for a one man project. While in the third part, a complete coverage of the whole universe was virtually impossible. The usual sampling questions existed, such as non-response error, small size of sample and interviewing communication bias errors. Finally, the intention of non-users as self-prediction of behavior was a direct and reliable method, but subject to the qualification by their knowledge about the product and its attributes.

Plan of Study

The rest of the chapters are arranged in the following manner. In Chapter II, the approaches to the study of durable goods demand were reviewed. Chapter III told of the general situation and understanding of the

present local development in T.V. In Chapter IV, the methodology of research would be investigated in full detail with respect to questionnaire design. Chapter V was devoted to the analysis of the survey results and finally comments and recommendations.

CHAPTER II

CONCEPTUAL BACKGROUND

Economic and Marketing Standpoints

The economists contribution mainly centered on the rationale of aggregate phenomenon of the whole commumity, which necessarily precluded any consideration for the investigation of the individual behavior, such as perception, irrationality, emotion and influences, internally or externally affecting the buying process. In this respect, marketing academicians appeared to complement their counterparts by trying to excavate the root of a phenomenon insolating their studies upon individuals, at one point in time or longitudinally. It was in the time dimension which causes the greatest handicap in the economic quantitative approach, i.e. the inherent nature for the requirement of past data, without which any method of analysis would fall short of its objective. Unfortunately, this was also the exact situation in which any study of a new product was presented. Nevertheless, both presumed that the causes were all traceable and findings of results could further be inferred either in naive forms or more rigorously by statistical analysis.

Durable Goods & their Role in Economy

For economic analysis, consumption might be subdivided

into many classifications which were considered relevent. One particularly useful subdivision was durable goods, whose purchase could quite easily be advanced or deferred, according to current situations of income, prices and guesses about the future. This involved from the basic recognition that a durable good provided services through out a period of several years and it was not actually consumed.[14] As to their role in the economy, A.C. Harberger summed up its characteristics and relation to the general situation by saying:[15]

> "Durable goods.....seem to have attracted excise taxation, tariff duties, quantitative trade controls, license fees, and other policy measures far out of proportion to their weight in the national output or expenditure.
> Durables demand, moreover, fluctuates so violently, in comparison with the demand for other sectors' production, that most modern theories give it a key role in causing and/or exacerbating business fluctuations."

Harberger further pointed out some of the difficulties confronted by researchers and warned them of the probable pitfalls. For instance, data on quality and price were by far not satisfactory; problems on "stock" and "flow" demand as affected by depreciation pattern and maintenance cost, and the volatile relation to business conditions shown by

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[14] J. Dean, Managerial Economics, Prentice Hall, Inc. 1951, Englewood Cliffs, N.J. pp. 148-150.

[15] A.C. Harberger, The Demand for Durable Goods, The U. of Chicago Press, Chicago & London 1960, pp. 3-6.

the difference of the pace of change between "stock" and "flow" demand.

Economic Viewpoint

To the extent that micro-economics provided a basic theory of consumer behavior, resting on the principle of maximizing utility, it fell short of satisfactory explanation when the assumption of rationality in judging tastes and preferences, at a certain income level and a set of prices for products, was taken into into account. This motivational assumption was particularly open to question, since very often satisfaction becomes optimal instead of maximum.[16]

Spending and Saving Behavior

Economic consumption--providing a pedestral for inter and intra-industry competition, could be separated into two categories, viz. the macro and micro. The former dealt with the relation of consumption to income over the years and further the factors causing variations. This was most vividly exemplified in the increasing use of econometric methods which extended beyond the scope of investigating income alone, but to the addition of the relative impacts of other variables. By and large, it was the purchasing

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16 R. M. Cyert and J.G. March, A Behavioral Theory of the Firm, Prentice Hall, Inc. 1963, Englewood Cliffs, N.J.

power that furnished a causal variable and a proposition from which research began. While the latter, which originated from the marginal utility concept lent credence to individual decision making. Consumption in this aspect was treated as a function of average household disposable income. Since, it was the latter that concerned the household (which was the unit of focus in this study), it seemed worthwhile to see how household behavior was treated in the economic field. Each of the following hypotheses will be advanced separately in its own right, but they all began with Keynes' dictum: "Consumption--to repeat the obvious --is the sole end and objective of all economic activity."[17]

(a) Absolute Income Hypothesis--originated by Keynes, stated that consumption was function of current personal disposable income, to the exclusion of all other factors. It assumed that the marginal propensity to consume was positive, but less than the average propensity to consume.

(b) Relative Income Hypothesis--suggested by D. Brady and R. Friedman, said that consumption depends on the level and the distribution of income. This was based on the rationale that people in the social system tried to emulate others and to maintain at least the highest standard of living attained in the past.

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[17] Bruce M. Johnson, Household Behavior: Consumption, Income and Wealth, Penguin Books, 1971.

(c) Permanent Income Hypothesis--offered by M. Friedman, stated that since income might vary from time to time, but consumption remained relatively stable, people were thus induced to gear their expenditures to the average actual and/or anticipated income over a period of time, rather than income received in current period. The assumptions were: Income and consumption might be separated into their respective permanent and transitory components; permanent consumption was a multiple of permanent income; and the rest of the components were uncorrelated.

(d) The Endogenous Income Hypothesis--broadened the scope of consumer behavior, by saying that the household had a utility which was a function of the desired consumption flow and the desired wealth stock, both defined over the same period, for (1) status reasons and (2) motives of regulating income and consumption, earning interest and a hedging against uncertainty.[18]

These hypotheses though radically different, still possessed certain common denominators. Each had been used on time series as well as cross-section data to derive macro or micro relationships. Each postulated a relationship between consumption and income but with different underlying concepts. Each was subject to controversy, supported or

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[18] Bruce M. Johnson, op cit.

Robert Ferber, "Research on Household Behavior," in Surverys of Economic Theory .3, MacMillan, London, Melbourn Toronto, N.Y. 1968. pp. 115-147.

disputed by empirical studies. However, most important of all, the essence lied not in the effects of the variability in income on consumption but a recognition which provided a basis for refinement toward a more realistic consumer behavior study.

A Further Note: Individual Items Versus Class of Products

In economic studies of durables demand, using time series or otherwise, a few variables seemed indispensable. Broadly speaking, the discussion amounted to the role of price, income, demographic and repalcement effects among the complex factors influencing behavior.[19]

For the study of a single class of products, the first three variables were most readily adaptable, but in the study of a single itme, the final variable of replacement effect is most significant. This replacement demand differed from the new owners demands in that it bore a definite relationship to both the existing stock and stock over a period, while new owners represented the expansion of existing stock. Also, this replacement could only be estimated by life expectancy brought about by scrappage as the results of planned or unplanned obsolescence and/or

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19 L. Needleman, "The Demand for Domestic Appliances" in National Institute Economic Review, No. 12, 1960.
E.R. Lim, Consumer Demand in Hong Kong: An Econometric Analysis, Publication of the Hong Kong Economic Association, Chinese University of Hong Kong, 1968.
J. Dean, op cit, pp. 148-150.

technological upheaval.

The above discussion on aggregate consumption on a class or single tiem of product was fundamental to marketing but the problem remained unsolved, because marketing concerns the possibilities of sales.

Marketing Viewpoint

Behavioral Approach of Marketing

Marketing borrowed from other established sciences such as psychology, sociology, anthropology, social psychology and economics, and applied their explanatory power to study the capricious nature of consumer behavior. However, it ultimately hoped to understand, and thereby, predict what behavior was most likely to occur under given circumstances. Of course, the main issue was the cause of the behavior which was wrongly assumed to be explanable, no matter how "irrational" it might appear. This was the behavioral approach to marketing.

People are heterogeneous, and as society became more affluent, this heterogeneity becomes more expressed. Faced with this fact, marketers had awarded prime importance to the problem of determining useful consumer types consisting of common consumption patterns. This consumer profile of a durable good, might be approached under the auspices of three theoretical frameworks, they were (1) the Decision-

making Process, (2) the Product Life Cycle and (3) the Diffusion Process. Each of these is discussed in the following paragraphs.

Decision-making Process

If the consumer decision-making process could be understood, marketers could then shape their strategies and policies to induce or perusade prospective consumers to buy their products. The theory of such a complicated process was however, either over-simplified as in the classical utility concept, or might involve so many intervening variables that empirical studies were rendered impossible.

Francesco M. Nicosia presented his comprehensive scheme in four fields:

Field one: From the source of a message to the consumer's attitude

Field two: Search for, and Evaluation of, Means-End(s) Relations

Field three: The Act of Purchase and,

Field four: The Feedback[20]

His attempt was not to let any single aspect escape unnoticed, and in so doing, he further supplemented his discussion with linear and dynamic non-linear mathematical models.

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[20] Francesco M. Nicosia, Consumer Decision Process: Marketing and Advertising Implications, Englewood Cliffs N.J. Prentice Hall Inc., 1966. pp. 157-245.

James F. Engel had also presented descriptive and comprehensive models of decision-making process,[21] while Donald H. Granbois summarized the details of the decision process with special regard to both the structure of a household and the type of goods, viz. the durables.[22] This served a purpose for this study. His thesis in the decision process comprised five stages:

1. Problem recognition. This was assumed to be the beginning stage in the process which might be initiated by instigating cues, advertisement exposure or by other circumstances of change, e.g. breakdown.

2. Search and Deliberation. This included the possibility of seeking of new information in addition to those predisposed. The availability and characteristics of the alternatives as well as the decision criterion were also to be considered.

3. Selection and Outcome. Here, the decision maker evaluated the alternatives in terms of the products expected performance and his own level of aspiration. Much evidence showed that his own level was to be satisfactory instead of the usual optimal or maximizing notion.

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21 James F. Engel, Consumer Behavior: Selected Readings, edited for the American Marketing Association, Homewood, Illinois, Irwin, 1968. pp. 2-17.

22 Donald H. Granbois, "Decision Process for Major Durable Goods" in New Essays in Marketing Theory, edited by G. Fisk, Allyn & Bacon Inc., Boston, Massachusett 1971.

4. Post-Purchase Behavior. The actual use of the product and its subsequent post-purchase evaluation completed the model. In addition, each assumed some feedback.

5. Family Role Structure. The models usually dealt with individual behavior alone, without regard to the influences on the individual exerted by other family members.

To conclude this decision-making process theory, a model by James F. Engel is shown in Figure 1.

Product Life Cycle

This concept was mostly used in the pre-introductory stage of new products. Managers who could forsee the life profile of a proposed product would find themselves in a very promising situation. This required intuition and foresight, but constituted a logical approach to product planning which helped created a buffer zone preceding the application of any subsequent change in strategies after the product made its appearance onto the market. Specifically, this concerned the series of moves to sustain the product's life or accelerate product phasing-out. The historical pattern of the product life cycle usually depicted four stages.[23] (see Figure 2) In its chronological sequence, they were: the market development, the growth,

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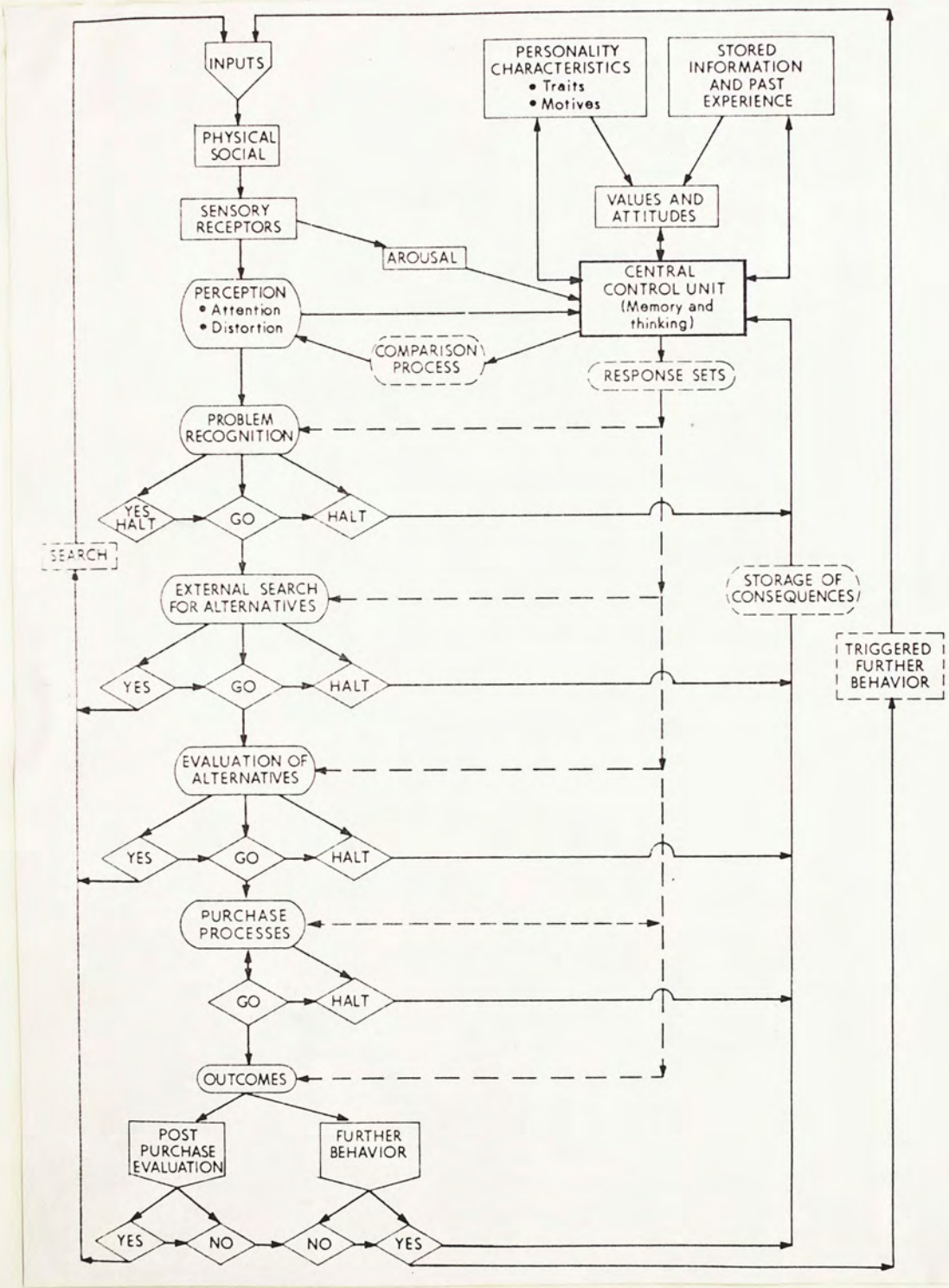
[23] Theodore Levitt, "Exploit the Product Life Cycle" in the Harvard Business Review, November-December 1965, pp. 12-24.

Figure 1.

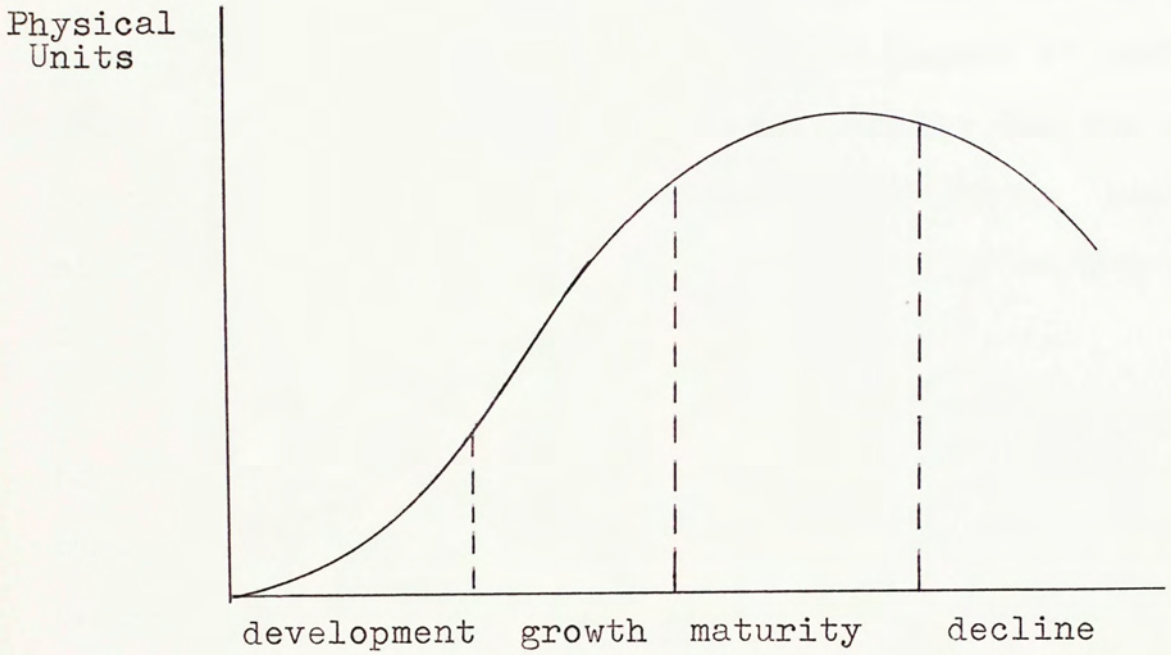
A Complete Model Showing Outcomes of the Purchasing Decision



Source: James F. Engel, op cit, p.13.

Figure 2

The Historical Pattern of Product Life Cycle



Source: same as footnote 23

the maturity and the decline stage, while some authors separated the third stage into maturity and saturation, whereas the difference was actually a matter of degree.

1. The market development stage. Here, the demand has to be created for the new product. The ease of which depends on product factors such as its degree of newness, its complexity, its psychological overtones and the array of product-fits with the set of consumer wants. Advertising strategy at this stage is employed to inform customers of the birth or presence of the product.

2. In the growth stage, the sales, if not the profit usually increases rapidly. At the same time, the implications it brings about are manifold. Firstly, competitors who had been watching on the side line now join in the race; secondly, as competition is fostered, brand differentiation begins to take effect and thirdly, as industry sales continued to rise, more latecomers are attracted. Marketing mix, like channels of distribution and price, become determining factors. Advertising mainly works to inform customers about the relative merits over competing products.

3. In the maturity stage, most of the potential customers are either using or in possession of the product concerned. Changes in distribution channels or promotional strategies do not radically change the payoffs. Such

practices as price competition, certain post-purchase service or very distinguishing marginal product advantages may alter the payoff.

4. In the decline stage, the level demand is falling. The overcapacity of supply, in the preceding stage, now becomes more apparent. Hard facts, either from deliberate manipulations or the lack of profit incentives, force many out of the industry. Production converges into fewer hands and an eclipse sets in.

This concept largely explains the production side of a product, and study requires the explicit data on unit sales or profits, and thereby, is especially suitable for instilling the idea of "market stretching" into the planning function.

Diffusion Process

This theory, as the name implies is the process by which something spreads. The concept was first originated by anthropologists in the studying of cultural traits or changes in religion, language, norms and other habits in the daily life of tribes and societies. Later, rural sociologiests employed the concept to the study on the spread of ideas, practices and technological innovation, while the spread of a phenomenon within a society was the main concern of sociologiest. Marketing men incorporated the concept mainly for the study of new products or

innovations and to the understanding of how, why and under what circumstances would they be accepted or rejected.

Marketing men thus combined the concept together with other marketing frameworks and attempted to guide, regulate and control the spread of new products, and if possible to find the means to improve the survival opportunities.

E.M. Rogers summarized the idea of diffusion process as the spread of a new idea, cropping out from somewhere to its final acceptance or rejection users. It is presented in a very systematic form, and seems to be elaborate and complete.

As a mental process,[24] there are five stages: (1) awareness, (2) interest, (3) evaluation, (4) trial and (5) adoption. The first three have much similarity to that of the decision-making process, but he advanced two stages further in the trial and adoption. Briefly, awareness is when an individual is exposed to the innovation but lacks information about it. Interest is said to have levitated, when the individual is aroused to seek additional information of the innovation which he favours in a general way. Evaluation is some sort of mental-trial in which the innovation is judged in terms

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[24] E.M. Rogers, op cit, pp. 76-95.

of the present and anticipated situation, where reinforcement is most likely sought. Trial is the actual use in a small scale to demonstrate the reliability and generate confidence. Adoption is the decision to continue full use.

As a physical process, it is similar to the product life cycle, however, the emphasis is one the percentage of potential adopters within a social system, instead of absolute units, e.g. as dollars of profit or units of sale. (see Figure 3). Within this physical process four distinct dimensions can be distinguished, they are: (1) the product, (2) the consumer, (3) the social and (4) the socio-cultural dimensions. Further, within the second division, another separation can be made, i.e. the time in adoption and the characteristics of adopters.

The Product Dimension[25]

The product was the hallmark underlying the rate of its adoption. Often products have many dimensions unheeded by producers or marketers alike, because what actually matters is how it is perceived by customers. There are several attributes in this product dimension, they are: relative advantage, compatibility, complexity, divisibility and communicability.

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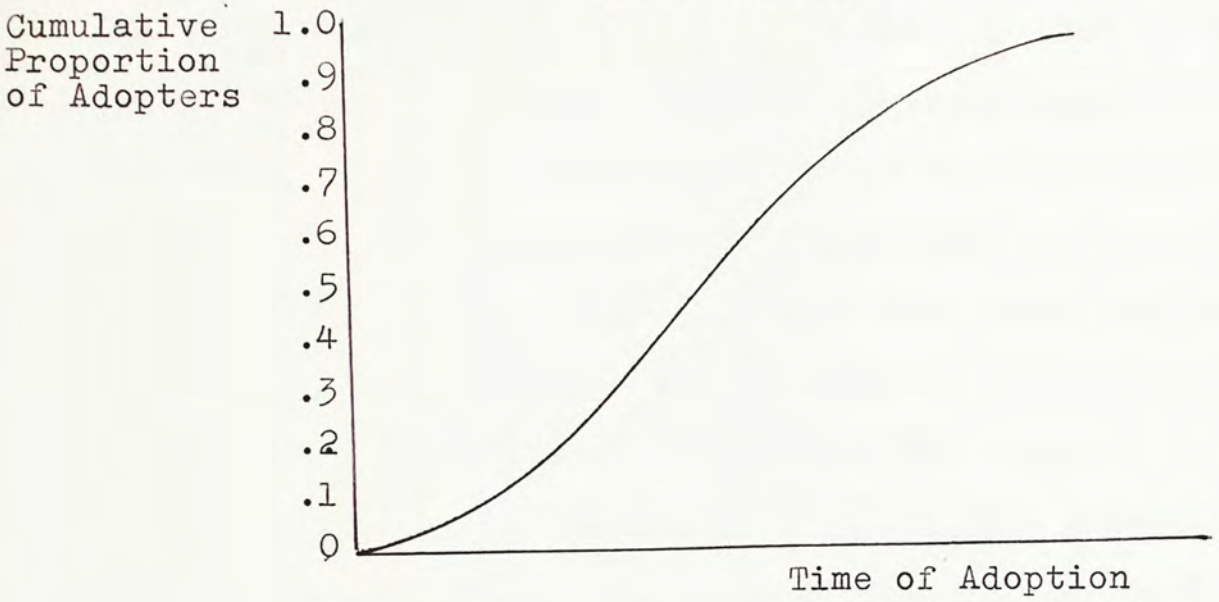
[25] E.M. Rogers, op cit, pp. 120-147.

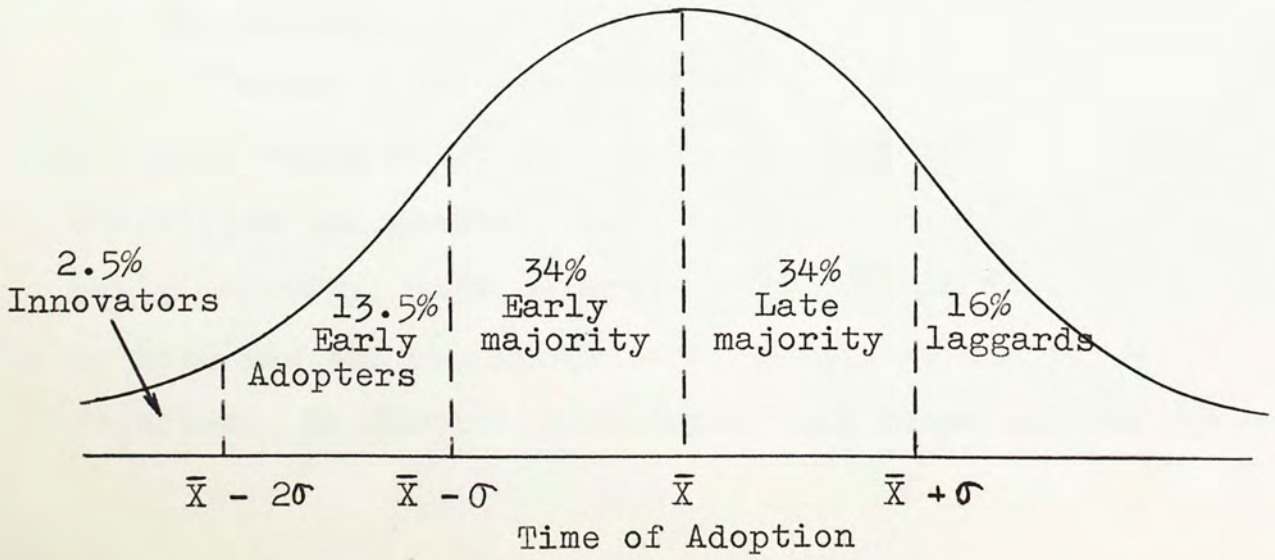
Figure 3. Cumulative Penetrating Curve (Generalized)



Source: T.S. Robertson, Consumer Behavior, Glenview, Ill., Scott, Foreman, 1970. p. 131.

Figure 4.

Time of Adoption of Innovations and Adopters Categories



Source: E.M. Rogers, op cit, p. 162.

Briefly, relative advantage is the degree to which the innovation is seen to supercede the one that it was intended to replace, or to enrich any unprecedented human activity. Compatibility is the degree to which behavior in using the innovation is consistent with the existing ways of doing things; and the higher the compatibility, the greater is the chance of acceptance. Complexity is the degree of difficulty the consumer is required to understand in the use of the innovation; and generally speaking, the simpler the idea, the easier will be its acceptance. Divisibility is the degree to which the innovation might be tried on a limited scale; modern hire-purchase and rental service are examples of this area. Communicability is the degree to which an innovation can be communicated to other people, because some product characteristics are latent and difficult to describe while some other might be more conspicuous and easily observed.

The Consumer Dimension

In any diffusion process, some people are bound to be early birds while some reserve decision. Rogers classified the adopters into the innovators, early adopters, early majority, late majority and the laggards. One point to note was the assumption that nobody seemed to be a rejector. He further postulated that these adopter types

could be represented by the normal distribution curve with each type separated by the use of a unit standard diviation, or its multiple, from the mean.[26] (see Figure 4) Thus 2.5% were innovators (area beyond two standard deviations to the left), 13.5% were early adopters (area between one and two standard deviations to the left); 34% were the early majority (area between one standard deviation and the mean); 34% were the late majority (area between one standard deviation and the mean, but to the right), while 16% were laggards (area beyond one standard deviation to the right).

The second consumer dimension referred to the consumer's individual characteristics, such as personality, value systems, social relationships and communication behavior. Each aspect has attracted attention for research, particularly the personality correlates of innovators.[27] In general, innovators were "deviants", to quote a term from H.G. Barnett (see Figure 5). T.S. Robertson summarized this idea into the innovator profile which included five most important sets of variables: (1)

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26 E.M. Rogers, op cit, p. 162.

27 G.D. Bruce & R.E. Witt, "Personality Correlates of Innovative Buying Behavior" in Journal of Marketing Research, Vol. VII (May 1970), pp. 259-260.

L.E. Boone, "The Search for the Consumer Innovators" in Journal of Business, 43 (April 1970), pp. 135-140.

F.B. Evans, "Correlates of Automobile Shopping Behavior," Journal of Marketing, October 1962, pp. 74-77.

Figure 5.

A Composite Picture of Adopter Categories

Adopter Category	*Salient Values*	*Personal Characteristics*	*Communication Behavior*	*Social Relationships*
Innovators	"Venturesome"; willing to accept risks	Youngest age; highest social status; largest and most specialized operations; wealthy	Closest contact with scientific information sources; interaction with other innovators; relatively greatest use of impersonal sources	Some opinion leadership; very cosmopolite
Early adopters	"Respect"; regarded by many others in the social system as a role-model	High social status; large and specialized operations	Greatest contact with local change agents	Greatest opinion leadership of any category in most social systems; very localite
Early majority	"Deliberate"; willing to consider innovations only after peers have adopted	Above average social status; average-sized operation	Considerable contact with change agents and early adopters	Some opinion leadership
Late majority	"Skeptical"; overwhelming pressure from peers needed before adoption occurs	Below average social status; small operation; little specialization; small income	Secure ideas from peers who are mainly late majority or early majority; less use of mass media	Little opinion leadership
Laggards	"Tradition"; oriented to the past	Little specialization; lowest social status; smallest operation; lowest income; oldest	Neighbors, friends, and relatives with similar values are main information source	Very little opinion leadership; semi-isolates

Source: E.M. Rogers, op cit, p. 185.

(1) demographic factors, (2) communication behavior, (3) social interaction, (4) attitudinal, perceptual and personality and (5) consumption patterns.[28]

The Social Dimension

Here, the emphasis was on personal influence and had attained a name of "interaction effect" in sociology. This was supported by the two step flow of communication, which hypothesized that an idea often flows from media to some individuals who designate themselves as opinion leaders or influentials, and it is these people who pass on the information to the less active section of the population.[29] Thus the first step was mainly a transfer of information while the second step involved the spread of influence into a "snowball" effect. It was through this interaction that individuals in a social system internalized the relative advantage of an idea as well as its other characteristics. This was seen to be consistent with the cumulative diffusion pattern, under the reasoning that most of the consumers did not rely on individual decision alone; instead based on social influence, such that the

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28 T.S. Robertson, op cit, pp. 136-138.

29 E. Katz & P.F. Lazerfeld, Personal Influence, The Free Press of Glencoe, 1964. pp. 309-320.

probability of a consumer's adoption in any time period would be a function of the number of consumers who had already adopted.[30]

The Socio-Cultural Dimension

Operationally speaking, diffusion of an innovation did not occur without some disruption of societal structure, because persistent sets of norms and values were required to be re-shuffled slightly or greatly, to accommodate the new intrusion which very often did not necessitate a resemblance to any of the life styles previously held. This transformation either of self-image or reducing the cognitive dissonance required some passionate decision of the adopter, and the degree of this adjustment due to mismatch would be less if the array of values between the innovation and the society was at a minimum. All this amounted to affect the rate of an innovation's diffusion within a culture, or a certain sub-cult.

Rogers' paradigm[31] (see Figure 6) schematically summarized the adoption process of an innovation by an individual in the social system. The antecedent variable sets were the actor's identity and his perception of the situation. The process was then subject to the influence

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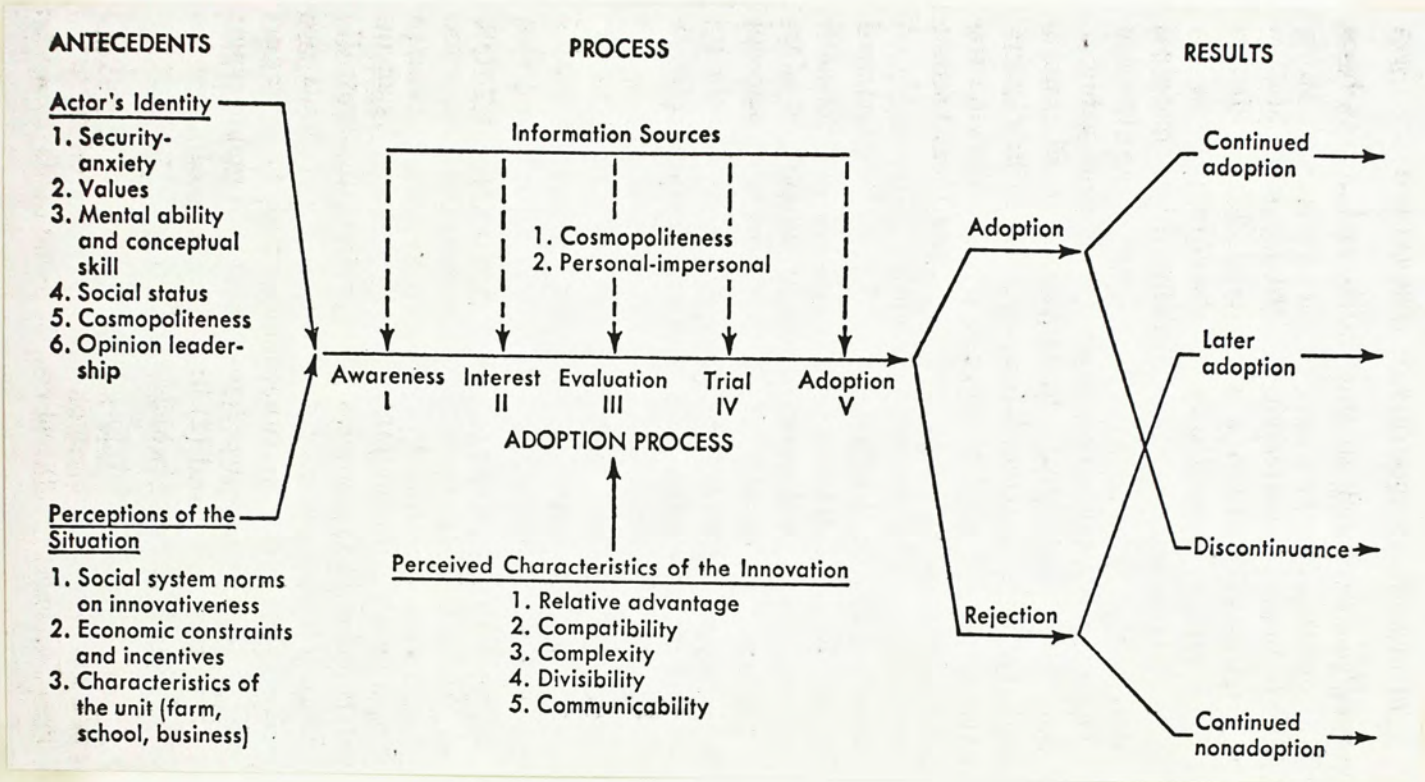
30 T.S. Robertson, op cit, pp. 143-144.
31 E.M. Rogers, op cit, p. 306.

Figure 6.

Paradigm of the Adoption of an Innovation by an Individual within a Social System



Source: Rogers, op cit, p. 306.

of perceived characteristics of the innovation and the information sources and subsequently led to the results of either adoption or rejection.

An Attempt Toward Integration

Each of the two fields discussed above had its own emblems, but one author in particular, George Katona, strived to bridge the gap between the two by linking economic behavior with psychology, and vice versa. He advanced to say:[32]

> "Economics without psychology" has not succeeded in explaining important economic processes and "psychology without economics" has no chance of explaining some of the most common aspects of human behavior.

The Katona Paradigm

Katona's paradigm of consumer behavior postulated three sets of variables, they are: enabling condition, precipitating circumstances and attitude.[33] Briefly, enabling conditions were income, assets and the ability to borrow, and set a limit on the consumer's capability to consume. Precipitating circumstances were external

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32 G. Katona, Psychological Analysis of Economic Behavior, N.Y. McGraw Hill Book co. Inc., 1951. p. 10. and, The Powerful Consumer, N.Y. McGraw Hill co. Inc., 1960.

33 C.Y. Clock & F.M. Nicosia, "Sociology in the Study of Consumers" in Journal of Advertising Research, September 1963, pp. 21-27.

variables which triggered off a problem. The above two were conditions of the consumer's environment. The third, attitudes were intervening variables through which the above two sets must pass if an action was to materialize. Hence, attitudes were individuals' attributes implicitly incorporating other social variables, and were influenced by political, economic and social factors of the past and present. These factors, however, when internalized, would become part of his mentality and would thereafter directly influence his behavior.

Conclusion

Thus far, what had been said on the two fields is just a brief review, but for the present study of an innovation, the diffusion framework seems to be superior and so it is in this direction that subsequent chapters will follow.

CHAPTER III

SOME ASPECTS OF LOCAL T.V. DEVELOPMENT

To have a clearer idea about the local development of the television business, it is easier to trace to various stages of its development by looking back at some of the highlights.

Hindsights and Highlights

Rediffusion, 1957

Hong Kong became the first British colony to operate a television service when the network of Rediffusion (Hong Kong) Ltd. (R.T.V.) was first established in May 29 1957, under an exclusive licence issued under the Telecommunication Ordinance. At the end of the same year there were about 2,000 subscribers. Programmes totally provided approximately 40 hours of wired T.V. each week, some of which were commercially sponsored. The actual fee for the service together with receiving units and all maintenance supplied was $55 per month. For those who owned their own sets, adapted to receive the programme, the monthly rental was $35.[34]

T.V. Ordinance, 1964

The T.V. Bill (No. 9/64) was enacted into an

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34 Legal Supplement No. 3 to the Hong Kong Government Gazette, Friday 24th April 1964, Vol. CVI.

ordinance to make provision for licensing companies to broadcast wireless television, for controlling the standard of programmes broadcast by such companies and for the purposes connected therewith.

Primarily, the object was to provide for the statutory control of commercial television broadcasting. This included a first licence to be granted for a term of fifteen years, subject to its being renewed after each five year period and with a first five year exclusive franchise. The licensee was required to be a British owned Hong Kong company and no controlling interest was to be held by competitors, supplier of broadcasting material, or advertising agents. Programme-wise, there were to be one English and one Chinese language channel for at least five hours each day, and the licensee was held responsible to ensure a proper balance in their subject matter and a high general standard of quality. All these were carried out under the auspices of the Governor in Council who might appoint a Television Advisory Board to advise the T.V. Authority to exercise his function, to submit proposals and recommendations with regard to standard, renewal or revocation of licences, to conduct enquiries into such matters as might be referred to it by the Authority and to publish reports on the progress of T.V.[35]

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[35] Ibid

H.K.-T.V.B., 1967

Exactly ten years after Rediffusion started T.V. broadcasting, the tender for establishing the first wireless T.V. station was awarded to the Hong Kong Television Broadcasts, in January 1966 and it commenced commercial transmission on the 19th of November 1967, supplying free T.V. programmes for those possessed a set. It featured color, F.M. and employed a UHF 625 line PAL system over two networks--one, the Jade, basically used Cantonese and the other, the Pearl, used English. The area covered by the main transmitters, included the entire urban area of the Kowloon peninsula. The Jade network had many local live programmes. The Pearl netweork was mostly a color channel, which at the outset, used mainly filmed materials and ushered in color television in Hong Kong.

Before the station went on air, a month-long test display at the Ocean Terminal, exhibiting some 100 sets of thirty brands, attracted more than 75,000 people. By this time, the total hours per week by R.T.V. had increased to 75, i.e. 35 hours more than its 1957 inauguartion, also the monthly rental had been reduced from $55 to $50 for 23" sets and $45 for 19" sets, while subscribers with their own sets paid only $25, i.e. $10 less. The number of subscribers were estimated to be about 90,000.[36]

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36 Hong Kong: Report for the Year 1967, Hong Kong Government Press 1968.

T.V.A.B. appointed, 1967

This board was appointed by the Governor on 22nd September, 1967 in accordance with Section 6 of the T.V. Ordianance 1964. The basis of control was provided under the terms of the T.V. Ordinance and details were found in the subsidiary legislation.[37]

However, the Board with an advisory function, was not satisfied with the limitation of control on wireless T.V. broadcasting alone, while R.T.V. continued to enjoy no regulation under its licence issued in 1957, since it was not governed by the T.V. Ordinance and the regulations and codes published under the Ordinance. To remove this anomoly, it was advised to draft a set of regulation well in advance of the expiry of R.T.V.'s licence in April 1973, such that it could be used to control all T.V. media in Hong Kong, regardless of how the signal was transmitted.

Further still, a full time television monitoring service was recommended to be established to supplement the board members' lack of constant watching on all the available television channels. The advice was accepted and preliminaries of arrangement were in progress.
In April 1969, a Sub-Committee of the Board was appointed to consider the existing codes relating to Advertising

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37 Report of the Television Advisory Board on The Progress of Television in Hong Kong: November 1967 to December 1970

and Programme Standards to cope with the rapid development of the medium. In the Preamble of the Television Programme Standards--Code of Practice 1, the Authority said.[38]

> "Wherever Television has been established it has exerted a very powerful influence on the community, adults and children alike. In Hong Kong as a medium for entertainment, information and education it reaches a great number of person all ages, in the privacy of their homes. ..... It is reasonable for the viewer to assume that the programmes offered will reach standards which have been determined having regard both to the nature of the medium and the obligation to use it in the best interests of the Hong Kong commumity. It is therefore the responsibility of the television stations to ensure that programmes which fail to reach these standards are not broadcasted.....
> Regulations may eliminate abuses; only the goodwill and the intent of those who actually operate the station and plan the programmes can ensure that television will be used constructively for the welfare ofthe commumity."

Fundamentally, the general programme standards required the observance of:

1. ordinary good taste and common sense
2. respect for the individual opinions for the public
3. proper regard for the special needs of children; and
4. respect for the law and social institutions.

Specifically, five major areas of significance were emphasized. They are: 1. Crime, which if imitated could be harmful to the well-being of individuals or to the commumity; 2. violence, which concerned the clash of

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38 Programme Standards--Code of Practice 1, Television Authority revised edition 1972, Government Printer.

purposes, personalities or physical assault; 3. protection of children, where great care was made not to unnerve or to cause pain; 4. news, in which accuracy and impartiallity was demanded; and 5. contests were to be on merit basis.

As to the Advertising Standards, the general principle which governed all television advertising was that it whould be legal, clean, and truthful. This was because of its great intimacy within the home it gave rise to problems which did not necessarily occur in other media. One of the major recommendations of the Sub-Committee was the gradual phasing-out to a total ban on the advertisement of cigarettes, as that practised in the United States and United Kingdom. Another major point concerning advertising time was that no break was allowed for programmes of shorter duration than 15 minutes, and up to 7 breaks in programmes lasting longer than 105 minutes.[39]

Rental Services in Color T.V., August 1971

On August 23 1971, a novelty in thinking coupled with a long-term plan of investment brought the first color rental service into Hong Kong. Shortly after, on 3rd January 1972, another sprang up, also, the existing broadcasting company, Rediffusion, ran their own color set

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39 Programme Standards--Codes of Practice 2, Television Authority Revised edition, 1972.

rental service. This presented some undermining effects on the future potential of total sales of color sets in Hong Kong. Hence it is proposed here to look at some these aspects.[40]

The concept of renting instead of purchasing and possessing has been well accepted in other western societies but when practised in Hong Kong, it ran into some cultural conflicts from most of the Chinese population. Rental has implications as applied to color television. We place our attention on the consumers' sector.

Consumer-wise, people were not used to renting commodities. Color T.V. which was considered by one of the managers as being a symbol of snob and called for a high initial outlay. But these factors are balanced by flexibility and service or maintenance round the clock. In addition, the change of models is relatively easy, thereby totally eliminating the problem of depreciation and obsolecence. This kind of service adapted particularly well to people or households in transit, where travelling light and less accumulation of possessions predominates.

From the slogans of the three companies, some common elements could be traced: They were quality and service. At first only sets of larger sizes were available such as those 26" and 22" sets, but it was

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[40] The author was indebted to the three managers of Colourent, Rentacolour and Rediffusion for their provision of information for this section during interviews in October 1972.

later found out that smaller sets such as those 19", 17" and 15" sets were also in demand. One company had 60% of its service in the latter category. Although the idea was good, there was the probable creation of delinquent accounts or more precisely, overdues which were said to be well under 5%.

Here are some figures which are not up to date but present some insight into how people react to the idea of renting color television. In April 1972, just less than a year when rentals started, the total number of sets rented was estimated to be about 900.

From a recent mail advertisement by "Colourent", a comparison was made between renting and buying a color set. Using an assumption of a reliable set, costing at least $3,600 with an economic life of five years and no scrap value, the table showed the following:

Table 1. Comparison between Renting & Buying

	Renting	Buying
Fee per month	$HK 95.00	$HK 60.00
Maintenance	--	15.00
Interest on the Set (3.5% p.a.)	--	10.00
	$HK 95.00	$HK 85.00
Fee for components	--	unknown

Hence, the monthly difference was seen to be $HK10.00 which was argued that such a difference would not be sufficient for the fee of component parts required

for maintenance purposes. To complete the whole picture, the following table on costs of renting by the same company is included as a comparison between set size and discounts for different terms of payment.

Table 2. Sizes of Sets & Types of Installment

Size	Monthly	Quarterly	Six-Monthly	Yearly	Aerial
22"	$ 95	$282	$555	$1,083	Not included (your existing aerial would be suitable & we will inspect & advise)
26"	115	342	672	1,311	

Unaminously, all the three admitted that competition was keen and that the rented sets were not for sale.

Educational T.V., September 1971

In September 1971, Hong Kong launched the most ambitious schools educational television service in Southeast Asia. In the first year of operation, from September 1971 to June 1972, videotaped programmes were estimated to have reached 100,000 third year students in primary schools, which was the initial target of the new educational television service.

Mr. J. Canning, the Director of Education hailed the introduction of educational television as "a great new experiment in learning", but added that it had been deliberately held back to prevent premature launching because:

> "Educational television is seen as a speeding and effective way of complementing and supplementing teaching in schools, but our awareness of the use to which television can be put in education has been tempered by caution..... Children are merciless critics."[41]

Initially, four programmes per week--one in each of the four subject areas, such as Chinese Language, English Language, Mathematics and Social studies--were produced and transmitted. Usual duration programmes lasted from twelve to fifteen minutes. To reinforce the impact of the work, notes specially written as a guide for both teachers and pupils were prepared. In addition, follow-up activities were organized and detailed evaluation questionnaires had been devised for teachers to complete after each programme. On the part of the teachers, educational television, rather than degrading their role in the classroom, emphasized their ability in organizing and directing. So far, the programme had been evaluated as a great success, and ways of improvement were continually sought with both regard to programmes material content, duration and the possible extension on the sphere of target students.

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[41] Hong Kong Standard, Friday, August 25, 1972 issue.

Telecommunication (Amendment) Ordinance, 1972 [42]

This was a Bill to amend the Telecommunication Ordinance, and it came into operation on 1st April 1972. The object was to exempt television receivers from the licensing provisions of the Telecommunication Ordinance (clause 2). That was, it would no longer be an offense to have a radio or television receiver without a licence. This Bill was passed by the Hong Kong Legislative Council on the 29th March 1972. The rationale underlying this change lied basically in that while in 1969 when the licensing for radios was rescinded, licensing for television was still maintained as it was considered to be a luxurious item of entertainment, and only few people could enjoy the facility. But, as the community's affluence gathered speed, the number of people possessing television sets greatly increased, thus rendering television an item of popular enjoyment. Rates levied on it were on longer considered to be appropriate or in the interest of the public, and were thus eliminated.

New Channels Announced, April 1972

On 19th April 1972, the Government made knwon its intention concerning its policy on future wireless

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42 Legal Supplement No. 3 to the Hong Kong Government Gazette, No. 9, Friday, 3 March 1972, Vol. CXIV and, Legal Supplement No.1 to the Hong Kong Government Gazette, No. 13, Thursday, 30 March 1972, Vol. CXIV.

television development.[43] The Television Authority announced that it had decided that tenders would be invited from the public for another two licences, once the franchise of the HK-TVB expired in November 1972. One of these would operate both an English and a Chinese channel while the other would be exlusively Chinese. The allotment of of the tender would be in accordance with the applicant's ability to provide television sercice in the best interest of the public audience.

This evoked some perturabtions from the two existing broadcasting companies which basically centred their censure on the question of how many broadcasting companies could Hong Kong actually sustain, without a sacrifice of the programming standards. This was because the deciding factor was seen to be in the revenues generated from advertisements. Shortly after this, a survey carried out by the reporters of the Sing Tao Yat Pao reflected that people at large welcomed the move of the Government as an offer of additional choice among channels, and anticipated higher levels of programme standard. Inasmuch as the worry shown by the existing broadcasting companies seemed unwarranted, other local and foreign groups showed tremendous interest in the

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43 Sing Tao Yat Pao, 19th April 1972 and 20th April 1972 issues.

sharing of the market in television broadcast which would in the near future benefit the general audience.

The Finest Hour through Satellite, August 1972

On August 26th August 1972 when the twentieth Olympic Games opened in Munich, there were about 80,000 people who were directly participating in the opening ceremony. But the event was not confined to just that corner of the world, and with the installation of installation of television equipments, the various games were televised to people of many races in this world through satellite. Viewership was estimated to be around 18 million. In Hong Kong, it was the first ime that people could enjoy the direct transmission in color, showing the green lawn of the stadium, the faces of winners and losers of different races who vied in a peaceful spirit for laurels and honours, met triumph or defeat under a blue and white sky, with mentality transcendent beyond all personal merits. It was indeed the finest hour of color television in Hong Kong.[44]

T.V. Ownership: a Similar Curve Technique

Since the introduction of wired television in 1957 fifteen years ago, its development was quite slow in the

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[44] Same as footnote 40

initial stage (see Table 3 & 4). In the first ten years, i.e. to 1966, the cumulative retained import did not exceed the 1 million mark.[45] However, with the establishment of the wireless television, speed gathered momentum, and in 1969, the highest annual record occured, totaling 169,563 units and at a value $HK 87,448,305. This stage of development would clearly be seen in Figure 7, where during the years of 1967 to 1970, cumulative retained imports multiplied five to six times. But, the subsequent two years showed a slight drop to just below the 100 thousand level. In short, the cumulative penetrating curve for the black and white receivers evolved into a S-shape curve. This could further be explained with the fact that if we took the mid-year population estimate in 1972 which was 4,077,400, and if this was divided by the average number of members in households, viz. 4.7, we could obtain the average number of households in Hong Kong. Using this as the denominator and the cumulative retained import of black and white receivers, viz. 786,641 as the numerator, we obtained a 90.67% of saturation. Of course, the replacement, multi-set household or scrappage effects had not been taken into account, and if the assumption that a set's economic life was seven years, a 82.91% would be obtained instead.

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45 Hong Kong Trade Statistics: Imports & Re-Exports for years 1958 to 1972, Commerce & Industry Department, Hong Kong.

As to the unit price, it is helpful to look at the breakdown of imports of color T.V. sets in 1972 by importing countries, (see Table 5). Here, among the four major ones, Japan ranked first but the unit price was the lowest, viz. $HK 1,349 while the Federation of the Republic of Germany ranked second but a unit price highest, viz. $HK 2,395. This would possibly be the results of smaller set size in the former and large set size in the latter. However, the price for all the imports was $HK 1,825 which when compared with $HK 2,777 in 1968 revealed a significant drop of price in the recent years.

Conclusion

Thus we have seen how the development evolved and the amount of efforts exerted by various parties concerned. All these appeared to converge onto a common objective to better the existing policy in the ultimate aim to let the audience make fuller use of the medium.

Table 3

A Summary of Imports, Re-Exports and Retained Imports on Black & White Television Receivers (Value in HK $ '000)

Years	Import		Re-Export		Retained Import		
	Quantity	Value	Quantity	Value	Quantity	Value	Cumulative Q.
1959	560	299	1	0	559	298	559
60	1,590	727	2	2	1,588	725	2,147
61	4,579	2,246	16	19	4,563	2,241	6,710
62	10,609	5,575	2,246	1,186	8,363	4,395	15,073
63	13,880	8,699	1,376	778	12,514	7,921	27,587
64	19,664	12,090	1,919	829	17,745	11,261	45,332
65	22,428	13,736	454	328	21,974	13,408	67,306
66	30,125	17,724	1,205	778	28,920	16,947	96,226
1967	45,382	25,833	4,671	2,434	40,711	23,399	136,937
68	158,051	85,528	1,702	926	156,349	84,602	293,286
69	171,768	88,765	2,205	1,318	169,563	87,448	462,849
70	130,277	66,344	1,148	514	129,129	65,830	591,978
71	98,797	54,577	2,510	1,369	96,287	53,208	688,265
72	99,895	53,057	1,519	1,149	98,376	51,908	786,641

Source: H.K. Trade Statistics in Import, Re-export from 1959 - 1972.

Remarks: 1. Value in nearest thousand dollars.
2. Data for 1957 & 1958 not available because it was not separated from radio apparatus.
3. From 1968 onward, 'wireless' was introduced but combined here-after with the 'wired'.

Table 4

A Summary of Imports, Re-Exports and Retained Imports on Color Television Receivers (Value in HK $ '000)

Years	Import		Re-Export		Retained Import		
	Quantity	Value	Quantity	Value	Quantity	Value	Cumulative Q.
1968	679	1,885	3	13	676	1,872	676
69	231	354	119	309	112	44	788
70	1,808	2,630	40	70	1,768	2,560	2,556
71	10,717	20,843	39	89	10,678	20,754	13,234
72	26,336	48,074	70	152	26,266	47,923	39,500

Source: H.K. Trade Statistics: Import and Re-export 1968 - 72.

Remark: Value in nearest thousand.

Table 5.

A Statement showing Imports of Color Television Receivers during 1972

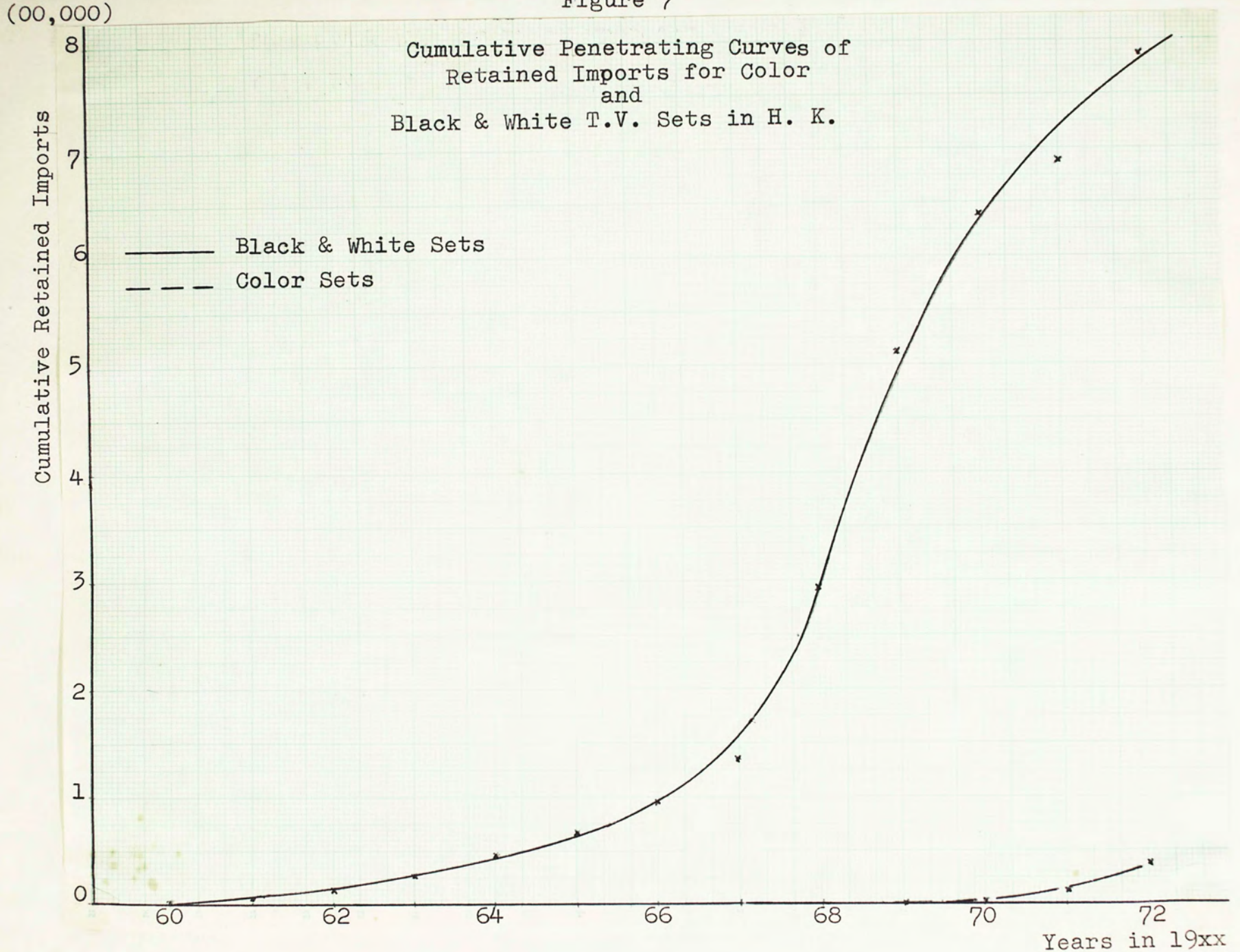
(Value in $HK)

Country	Quantity	Value	Unit Price*
Austria	100	133,492	1,335
Denmark	151	530,376	3,512
Finland	132	286,757	2,172
France	2	6,204	3,102
Germany F. of R.	9,053	21,689,399	2,395
Italy	26	58,960	2,268
Japan	13,717	18,504,884	1,349
Netherlands	1,950	4,370,148	2,241
Norway	2	5,889	2,950
Taiwan	10	8,348	835
United Kongdom	1,189	2,469,645	2,077
U.S.A.	3	7,671	2,557
Yugoslavia	1	2,662	2,662
	26,336	48,074,435	1,825

Source: Hong Kong Trade Statistics: Imports & Re-Exports 1972.

*Value to nearest dollar

Figure 7


(00,000)
Cumulative Penetrating Curves of
Retained Imports for Color
and
Black & White T.V. Sets in H. K.
Cumulative Retained Imports
Black & White Sets
Color Sets
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3
4
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7
8
60
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Years in 19xx

CHAPTER IV

METHODOLOGY & FORM DESIGN

The Original Plan

As mentioned earlier in Chapter I, the original plan for the study was to divide it into two parts (i) the users and (2) the non-users. For the users, it covered the owners while for the non-users only those with a black and white set were included. The reason of the latter choice based on the a priori assumption that households were more prone to have a black and white set--and not likely to by-pass this stage--before adding an extra set with the additional color dimension.

For the convenience of control on the limits of other intervening variables, it was considered that since the total time of the appearance of color T.V. onto the market was less than five years (1968-1972), all color sets, irrespective of age would be included in the sampling of the population. Whereas for the black and white it was necessary to exclude households in possession of a black and white set for more than six years, i.e. those pre-1967. This restriction in selecting approximately equal time periods could hopefully screen out some early black and white set adopters, who at present, might or might not be a color set household. Such being case, we might at least be assured that the chance of overlap

in the consumer types from the two categories would be minimized. Other than the purpose stated above, there was no guarantee that a color set household would also be a black and white set household in the specified period. However, it was assumed that if a household had both a color and a black and white set, it would be classifed in the former category.

The Techniques

For the color sample, the number of importing countries was first checked, and the first four, totally covering a market of 96.4% were chosen (see Table 5). Since brands among importing countries were numerous and no concrete statistics were available from government sources, it would be virtually impossible to review all of them. Hence, it was worthy of trial just to assume some leading brands, as pointed out by retailers or people experienced enough in the appliance field. Though this seemed a bit unfair to the rest and at the same time imposed some bias in brand preference, it might have been considered an acceptable alternative. Thus determined, the agents or wholesalers of the selected brands were approached by a cover-letter--detailing the author's intention and assurance that the survey was purely in academic interest--asking for a possible interview.

Many of these just became letters of no return, while for those who were willing to grant an interview were reluctant to provide names of households who had bought the brand. Intercepted at the threshold of this approach, any further progress would be in vain and thus the whole plan was discarded.

For the second part, the non-users, a personal interview method was used. The reason for this was that for black and white set households it would be a formidable task to obtain all their names and addresses, also time and cost forbade this method. In view of diversified ownership and brands, a more subjective or purposive approach seemed to be the better alternative. Here, students in sewing and cooking classes at the Y.M.C.A. were chosen, mainly because they were housewives or girls from different districts, and because of the comparatively lower class fees these people might comprise different socio-economic characteristics. It was hoped that entry could be gained to the classroom, so that all respondents could complete the questionnaire at the same time. This not only would reduce bias but could boost the importance of the survey in addition to saving time.

Although this second part was theoretically sound the whole plan in this first alternative fell short of the objective because of the failure of the first part.

The Second Alternative

This was a personal interview.

In view of the difficult access to the prospective respondents due to that door-to-door interviewing being ruled out because of the lack of confidence by Hong Kong residents in strangers making cold-calls, and the recent up-surge in violent offenses, the following was a compromise between cost and value of information.

Details of Personal Interview

A number of well-known parks and gardens in Hong Kong and Kowloon Peninsula were reviewed. Since they varied in size of acreage and location, covering almost every corner of the colony, a subjective approach was selected, i.e. of the total 396, the four most knwon resorts were chosen, with two on Hong Kong Island and two on Kowloon Peninsula. They were:

1. Victoria Park
2. Botanic Gardens
3. Kowloon Tsui Garden, and
4. Fa Hui Park

About 30 respondents were required from each category and this would be divided into quotas, and allocated in such a way that the larger area parks and gardens would be given a higher share of the total. This however, posed one problem in the selection of color

set households, because they were so much out-numbered by the black and white set households, and it seemed that almost everyone interviewed belonged to a black and white set household. So, sequential method was employed, that was to say, the search for the color T.V. set households would continue until enough were found, while the interviews for the black and white would be obtained easily and rapidly.

Reasons for the Sequential Method[46]

This provided a safeguard in that if the black and white interviews continued to be included, the number would probably exceed the color set sample to about the same ratio of the former to the latter viz. about 2,000. The analysis of the results would look somewhat like the following table, where the "Discriminant Function" study would be distorted.

		Classified I	Classified II	
Actual	I	n_1	n_2	n_I
	II	n_3	n_4	n_{II}
		n_I'	n_{II}'	N

46 R.E. Frank, W.F. Massy, and D.C. Morrison, "Bias in Multiple Discriminant Analysis," Journal of Marketing Research, Vol. 5 (August 1965), pp. 250-258

where,

I denoted color set households
II denoted black and white households
n_I denoted actual number of color set households
n_{II} denoted actual number of black and white households
n_I' denoted classified number of color set households
n_{II}' denoted classified number of black and white households

and,

n_1 was the no. of I, correctly classified as I
n_2 was the no. of II, correctly classified as II
n_3 was the no. of I, incorrectly clasified as I
n_4 was the no. of II, incorrectly classified as II
N was the total no. of respondents

The percentage of correctly classified respondents would be equal to:

$$\frac{n_1 + n_4}{N} \times 100\%$$

but, since n_4 was very much greater than n_1, and
n_4 might approach N

The effect that we sought in n_1 would then just disappear, yet, it was possible to obtain a very high percentage of correct classification.

The difficulty of the method was found to lie in the very low probability of interviewing a color set household. Although, field work was carried out during the Chinese New Year--when people were in the most joyous mood of the season--with the help of one assistant covering a different area in the same park, results were not encouraging. After four days of interviews, there were

only seven color set households. The results are shown in Table 6. Finally, the third alternative offered fruit for analysis.

The Third Alternative

As mentioned in the second alternative, it was not economical to carry out personal interviews on an individual basis concerning the color set sample, the author thought of a third alternative, where interviewing respondents would be on an aggregate basis, but choice of the sample was less than random.

According to the experience of the author, students in private secondary schools usually came from families of a wide variety of socio-economic conditions. This was confirmed by many teachers with whom the author had acquaintaince. The author asked ten teachers who had been teaching for at least three years in schools other than private secondary, e.g. the government, grant or subsidiary secondary school, to name the ten most widely known private secondary schools. The requirements for selection were; (1) the school should have classes of Form 1 to Form 5 at least; and (2) established for more than three years. A list of ranked schools was established. To help understanding, Tables 7 & 8 show the categories of schools and the functional classification of secondary schools in

Table 6.

Results of Personal Interview for the 2nd. Alternative

	Effective No.	(%)	Non-Effective No.	(%)	Total No.	(%)
Color	4	5.5	3	4.2	7	9.7
Non-Color	42	58.4	23	31.9	65	90.3
	46	63.9	26	36.1	72	100.0

Table 7.

School Categories in H.K. as of Sept. 1972*

Government	136
Grant	22
Subsidised	719
Private	1,987
Special Education	31
	2,895

Table 8.

Classification of Secondary Day Schools by Function as of Sept. 1972*

	No.	Enrolment
Anglo Chinese grammar schools	232	208,118
Chinese middle schools	102	55,027
Secondary technical schools	15	8,852
Secondary modern schools	5	3,732
Pre-Vocational schools	14	4,142
	368	279,871

*Source:

Hong Kong 1973, Report for the Year 1972, Hong Kong Government Press.

Hong Kong as of September 1972.

According to the list, the form masters of the Form 5 classes in the first eight schools were approached and were persuaded to help in the survey.

With the eight schools thus contacted, 50 questionnaires were distributed to each class. The teachers were told to give each student a copy to take home and be filled in by parents. The word "household" was explained accordingly avoid the usual pitfall as revealed during the pre-test. Each was allowed one day to complete and hand back the questionnaire. Also, the teacher was asked to record the number of students in his class. The return was 97.5%, where the number of copies returned were 359 while the total number of students in all classes combined was 368.

The last school had to be contacted for the reason that after the seventh one was finished, it was found that the number for effective returns in color set category did not meet the required number of 30, even though the non-color sample was exceeded. The results of the first seven schools combined is shown in Table 9, and that of the total combined in Table 10. Now, to make the two samples correspond in size, a similar sequential method as in alternative 2 was used, viz. 30 questionnaires from each effective group were randomly selected to form the

Table 9.

Results of Return from the 1st Seven Schools

	Effective		Non-Effective		Total	
	No.	(%)	No.	(%)	No.	(%)
Color	27	8.7	4	1.3	31	9.9
Non-Color	249	79.8	32	10.2	281	90.1
	276	88.5	36	11.5	312	100.0

Table 10.

Results of Return for the Eight Schools

	Effective		Non-Effective		Total	
	No.	(%)	No.	(%)	No.	(%)
Color	31	8.6	5	1.4	36	10.0
Non-Color	285	79.4	38	10.6	323	90.0
	316	88.0	43	12.0	359	100.0

Table 11.

Results of Return for Alternatives 2 & 3 Combined

	Effective		Non-Effective		Total	
	No.	(%)	No.	(%)	No.	(%)
Color	35	8.2	8	1.9	43	10.1
Non-Color	327	75.8	61	14.1	388	89.9
	362	84.0	69	16.0	431	100.0

Table 12.

Final Seælection from the Effective Groups

	Sample Size	Effective Group	%
Color	30	35	85.7
Non-Color	30	327	14.3
	60	362	100.0

final sample for each analysis. However, the results from the personal interview as stated in alternative 2 were included in the effective groups of alternative 3, after a consultation with the thesis supervisor prior to the random selection being made. The combined results of Alternative 2 and Alternative 3 are shown in Table 11 and the final selection in Table 12.

Questionnaire Design

Due to the nature of this kind of survey in Hong Kong, i.e. people in general are more enclined to be conservative in giving opinions or ideas whether or not they are concerned with personal or impersonal matters, the best way to approach the problem was to use a structured questionnaire. The survey was consturcted in Chinese and predominantly close-ended, where only a check (✓) was required in answering, except in "occupation" and "others."

The questionnaire was first written in Chinese to elicit the information required in the survey. This single form used for the purpose of two sectors necessarily required balance in the wording of questions or statements so as not to arouse suspicion or discrimination. This Chinese version thus constructed was pretested on a small sample of people in several walks of life, and the questionnaire was reviewed for new additions or finishing

touches. The Chinese version was subsequently translated into English and presented to the supervisor for discussion and approval. But, only a copy of the questionnaire in English version is attached in Appendix .

CHAPTER V

ANALYSIS OF RESULTS, FINDINGS CONCLUSION AND RECOMMENDATIONS

The Attributes and Product Image

This was intended as a measure to reveal the physical dimension related to the product that might help shape the speed of adoption and diffusion. The following analytical technique was chosen:

Semantic Differential Technique

In constructing the question, a technique called the the semantic differential was used.[47] This was acclaimed as a quick, efficient means of getting quantification of samples in regard to both direction and intensity of opinions and attitudes toward a concept; further, reliability was reasonably high.

In our case, thirteen attributes of the product, and a corresponding five-point scale ranging from "completely not important" to "extremely important" was used. The result is shown in Exhibit 1 & 2. A t-test was applied separately for each attribute to check for significant differences between each pair of mean scores of the two

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[47] W.A. Mindak, "Fitting the Semantic Differential to the Marketing Problem," in the Journal of Marketing, Vol. 25 (April 1961), pp. 28-33

Exhibit 1.

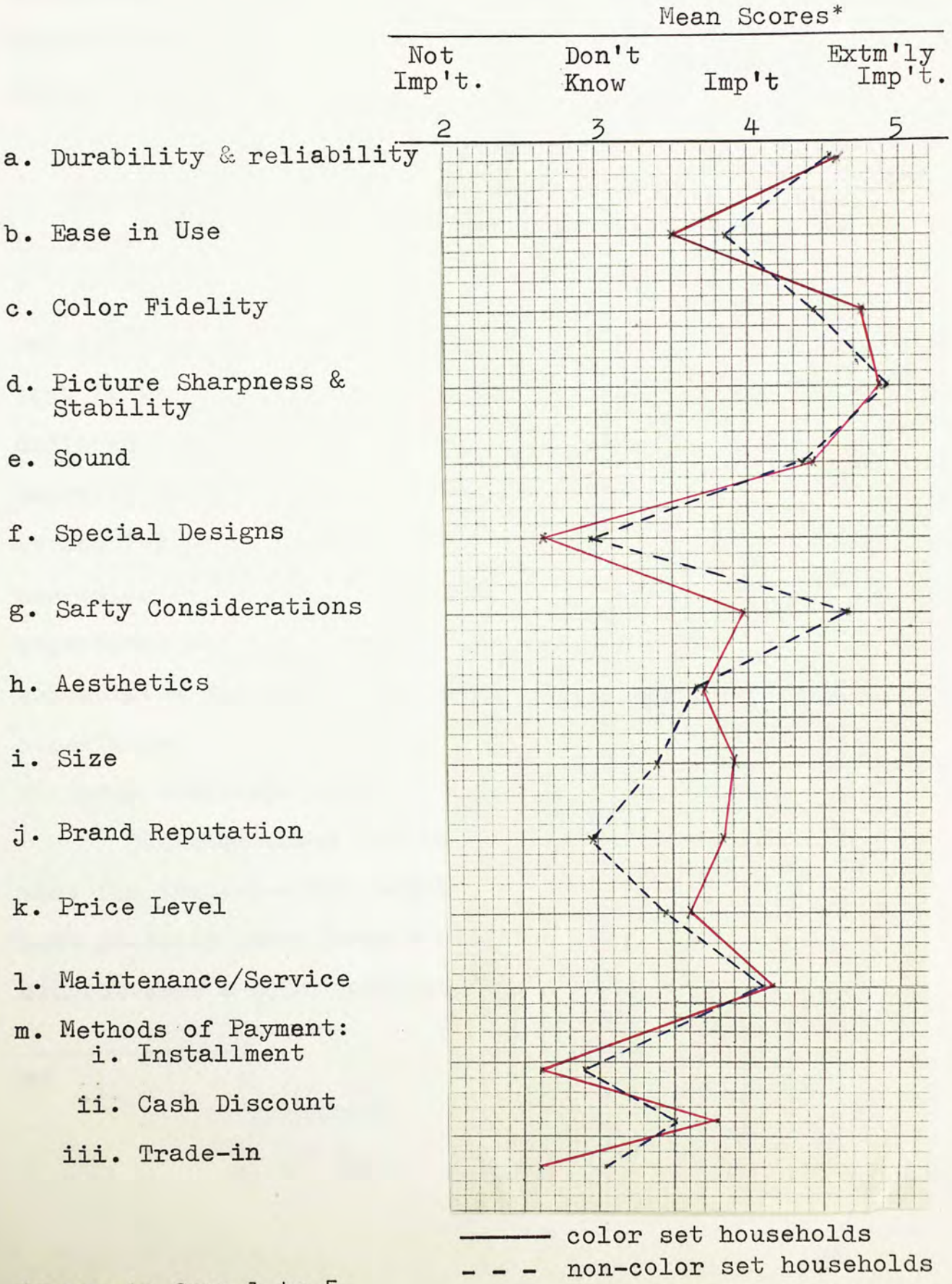
Importance Rating on Thirteen Product Attributes

Code	Color Set Sample: Frequency of Ratings in 1	2	3	4	5	Mean Scores	Non-Colour Set Sample: Frequency of Ratings in 1	2	3	4	5	Mean Scores	t
a	0	0	0	12	18	4.600	0	0	0	13	17	4.566	0.334
b	2	6	1	17	4	3.500	0	3	2	21	4	3.866	1.225
c	0	0	0	7	23	4.766	0	0	3	11	16	4.433	2.260[s]
d	0	0	0	4	26	4.866	0	0	0	3	27	4.900	0.197
e	0	0	2	13	15	4.433	0	0	1	16	13	4.366	0.399
f	2	15	5	8	0	2.633	1	10	8	11	0	2.966	1.354
g	0	4	4	12	10	3.933	0	0	1	6	23	4.666	2.880[s]
h	0	5	3	18	4	3.700	1	4	2	21	2	3.633	0.282
i	0	3	2	20	5	3.900	0	7	6	15	2	3.400	2.230[s]
j	0	2	7	15	6	3.833	4	8	5	11	2	2.966	3.080[s]
k	1	4	6	14	5	3.600	0	7	7	11	5	3.466	1.497
l	0	3	4	8	15	4.166	0	1	5	14	10	4.100	0.313
m* i	6	8	4	6	2	2.615	1	10	11	7	1	2.900	0.966
ii	1	4	4	10	9	3.786	0	4	9	15	2	3.500	1.090
iii	4	9	7	3	2	2.600	1	10	10	5	4	3.033	1.555

s: Significant at 0.05 level.
*: Total do not add up to sample size, viz. 30 because of some non-response.

Exhibit 2.

A Profile of Importance Rating
on Thirteen Product Attributes



*Range is from 1 to 5

samples, and detailed discussion will be limited to these statistically significant pairs while the rest will be covered in more general terms.[48] Of the thirteen characteristics only four were found to be significantly different.

Statistically Significant Attributes

1. Color Fidelity

The mean scores were 4.766 and 4.433 for the color set and non-color set samples respectively. This showed that it was an important factor in the choice. The difference which arose might be that people who were already enjoying the extra color dimension indeed highly appreciated it and for which they would not wish to part with. For the non-color set sample, though they might know of or had experience with it, they still lacked the inner appreciation accumulated during a gradual learning process by actual experience.

2. Safty Considerations

The mean score for the color sample was 3.933 and that for the non-color sample was 4.666. The difference most probably arose from a misunderstanding by people who did not have a color set but had heard of some incidents

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48 $$t = \frac{\bar{x}_1 - \bar{x}_2}{\sigma\sqrt{\frac{1}{n_1} + \frac{1}{n_2}}}$$

or mishaps concerning this aspect, while this belief had actually been subdued for those who now possessed color sets. Extensive surveys have shown that this belief and fear was indeed groundless, as color sets nowadays had completely eliminated this technical flaw which at one time existed during the earlier stages of production.

3. Size

The mean scores for the color set sample was 3.900 and that for the non-color set was 3.400. This was surprising to the author, but possibly people who possessed no color set would not even bother about this point which is secondary in function. However, for those who rated it as important, size would most probably correlate with space in which it was placed.

4. Brand Reputation

The mean scores for the color set sample was 3.800 and that for the non-color set sample, it was 2.966. This was the greatest difference found among the 13 attributes. People now in possession of a color set possibly compare the performance or other non-functional aspects of their own sets with that of other brands; and it was common that people tended to become dissatisfied with whatever they had, as time elapsed, while the non-color set owners did not have the opportunity to make any comparison.

The non-significant pairs did not mean these

attributes were not important, but rather, there was simply no difference between the attitudes between the two samples, i.e. they held essentially the same opinion toward this attribute. From Exhibit 2, if we considered attributes with scores above 4.5 as very important, 3.5 to 4.499 as important and that below 3.5 as not sure or not important, we would draw up a table (see Exhibit 3) to show the vertical differentiation among the attributes in terms of rankings.

A final word on the product image might be that ratings for attributes seemed to go in the same direction along the continous scale, with the exception of attributes in safety, size and brand. Also, there were those which showed no difference but were relatively important, such as durability and reliability, stability, sound, external features and maintenance/service. These might be called the "indispensable" qualities required of a color set. Finally, from the findings of this section, it is concluded that hypothesis 1 (The perception of product attributes is different between color T.V. set households and non-color set households.) was confirmed.

Exhibit 3

Comparison in Classification & Ranking
on the Mean Scores of the Attributes
by Samples of Color vs. Non-Color
T.V. Sets Households

Code of Attributes	Color Sample Rankings			Non-Color Sample Rankings		
	Not Imp't.	Imp't.	Very Imp't.	Not Imp't.	Imp't.	Very Imp't
a			3			3
b		12			7	
c			2		4	
d			1			1
e		4			5	
f	13			13.5*		
g		6				2
h		10			8	
i		7		11		
j		8		13.5*		
k		11		10		
l		5			6	
m i	14			15		
ii		9			9	
iii	15			12		

* a tie of ranks for factors No. 6 and 10 in 13 and 14 were split into 13.5 each

Role of Family Members in the Buying Decision

This information served to indicate which family members marketing men should direct their efforts. Since this was a study of a single product, wide variabtions as to information on purchase decisions were not anticipated. Further, as it involved a large expenditure in comparison with other products and as a facility to be enjoyed by many of the family members, joint participation in the purchasing decision would be predicted.

From the results shown in Exhibit 4, it could obviously be observed that trends were similar, though the decisional role for members in the non-color set sample was clustered. Most predominantly, the entire family (33.3% for color sets and 56.66% for non-color sets) usually made the decision as was predicted, while the combination of the father and the mother (20% for color sets and 23.33% for non-color sets) or the father alone (20% for color sets and 16.66% for non-color sets) finalized the decision. The other members such as the mother, children and others when considered separately carried almost negligible attention in the color set sample, whereas another extreme case occurred in the non-color set sample, viz. the mother and others clearly suffered a voidable role. An explanation for this is that the family in the Chinese cultural custom is supposed to

Exhibit 4

Role of Members within Family
in the Buying Decision
of a Color T.V. Set

Member(s)	Frequency of Choice			
	Color Set Sample	(%)	Non-Color Set Sample	(%)
Father	6	20.0	5	16.66
Mother	2	6.7	0	0
Children	3	10.0	1	3.35
Father & Mother	6	20.0	7	23.33
The whole family	10	33.3	17	56.66
Others	3	10.0	0	0
total	30	100.0	30	100.00

Exhibit 5
External Intervening Variable Influencing
Purchase Decision of Color T.V.

Variables	Frequency of Choice				Difference in Rank (d)
	Color Set Sample	Rank	Non-Color Set Sample	Rank	
Friends	22	1	21	1	0
Advertisement in newspaper	7	5	7	6	-1
Relatives	10	3	12	3	0
Advertisement in cinemas	1	10	0	10	0
Neighbours	3	8	11	4	4
T.V. Commercials	8	4	9	5	1
Salesmen	6	6	6	7	-1
Magazines	2	9	5	8	1
Showroom Displays	12	2	13	2	0
Others	4	7	2	9	-2
Total*	75		86		

* Totals do not equal or are indefinite because respondents are allowed to choose 4, but some waive the right of complete choice.

be an integrated unit with cohesive filial bonds relating one member to another in blood.

External Intervening Variables

Extensive research work had confirmed that personal influence exerted a more effective impact when compared with other types of communication media, in changing peoples' attitudes. Also there were people who had been designated as opinion leaders or influentials. Therefore it seemed proper to investigate the extent to which the above assertions were true in influencing other peoples' attitudes. The results were tabulated in Exhibit 5. Among the factors listed, friends were ranked first, showroom displays second, and relatives the third, by both the color set and non-color set samples.

A rank correlation coefficient was used to test the independence of observations in the populations.[49] And at 0.05 level, no significant difference was revealed ($Z = 1.273$). This indicated that both samples of color set users and non-color set users were influenced concomitantly by the same set of external intervening variables equally in the same direction.

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[49] Taro Yamane, Statistics, Harper & Row, New York, Evanstone & London, pp. 467-472.

$$r = 1 - \frac{6\Sigma d^2}{n(n^2 - 1)}, \quad \sigma^2 = \frac{1}{n - 1}, \quad Z = \frac{r}{\sigma}$$

Exhibit 6

External Intervening Variables Influencing
Purchase Decision of Color T.V. Sets
Reclassified by Personal &
Non-Personal Categories

	Frequency of Choice				
Personal Variables:	Color Set Sample	Rank	Non-Color Set Sample	Rank	Difference in Rank (d)
Friends	22	1	21	1	0
Relatives	10	2	12	2	0
Neighbours	13	4	11	3	1
Salesmen	6	3	6	4	-1
	41 (54.6%)		50 (58.1%)		
Non-Personal Variables:					
Advertisement in newspaper	7	3	7	3	0
Advertisement in cinemas	1	5	0	5	0
T.V. Commercials	8	2	9	2	0
Magazines	2	4	5	4	0
Showroom Displays	12	1	13	1	0
	30 (40%)		34 (39.1%)		

* The factor of "others" is not included, therefore, totals do not add up to 100%.

Personal vs. Non-Personal Influence

In view of the non-significance, the classification was further broken down between personal and non-personal media (see Exhibit 6). The results of this re-classification were even more surprisingly uniform in comparison. In the personal category, ranks of friends and relatives remained first and second for both color set and non-color set samples, while the order of salesmen and neighbours which were third and fourth respectively for color set sample, was reversed for the non-color sample. Under the non-personal category in both samples, showroom displays were ranked first, while T.V. commercials the second, advertisements in newspapers the third, magazines the gourth and finally advertisement cinemas the fifth.

To help make a comparison of the effects between personal and non-personal variables, total percentages were used, e.g. 54.6% versus the 40% in color set sample, and 58.1% versus 39.1% in the non-color set sample. It was certain that the effects of the personal variables exceeded that of the non-personal category. This seemed to be in agreement with the theory in the diffusion of an innovation through a two-step flow of communication. However, it is re-emphasized here that the purpose was not to prove any theory. Hypothesis 2 (The influence of purchase is different between color set households and non-color set households.) was not supported by the findings.

Motivation to Buy

In this section, the technique of semantic differential is used again. The results are tabulated in Exhibit 7 & 8, and a t-test applied to each pair of mean scores on each factor. The factors here were structured in the form of statements to which the respondents were asked to give their consent or denial. There were only two statements that were significantly different, and they were:

1. It is a relatively new product.

The significant difference in this statement was in congruence with what was originally anticipated in the assumption made by the author--that the color T.V. was a new product and was only at an early stage of adoption by consumers.

The means scores 3.266 and 3.833 respectively for the color and non-color sample revealed the inherent attitude that people not in possession of a color set actually viewed the color T.V. as a new product, whereas people already in possession of it were not certain of the validity of such a statement. This is an obvious advantages to marketers.

2. It shows personal status.

The mean scores were 2.633 and 1.966 respectively for the color and non-color sample. The significance which

Exhibit 7.

Ratings in Degrees of Agreement to

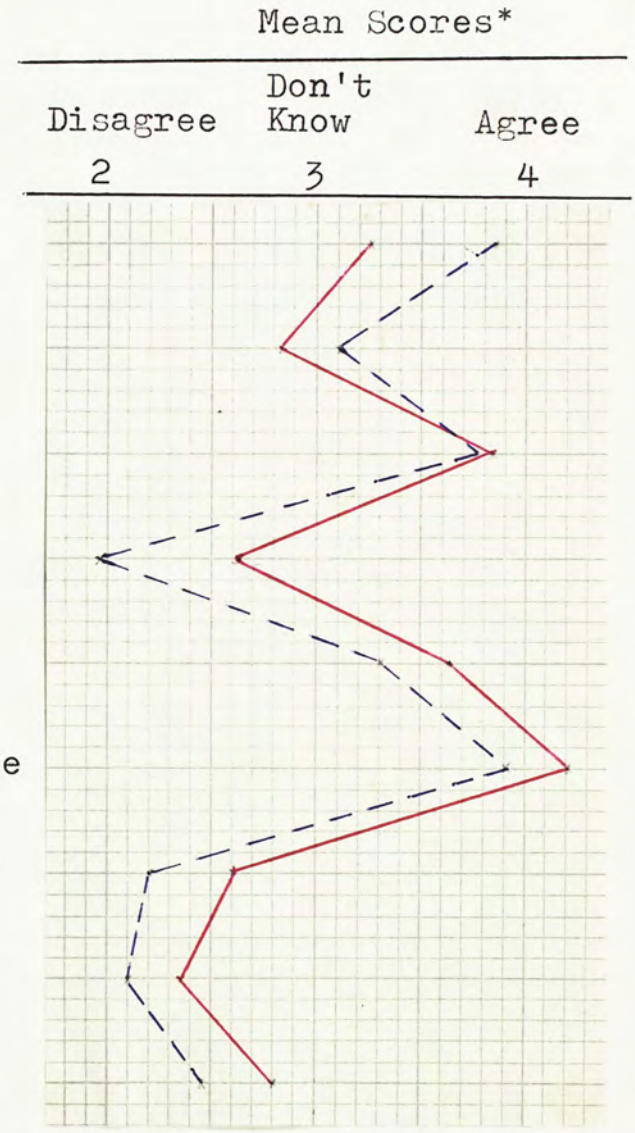
9 Statements Concerning Motivation to Buy

Code of Statements	Color Set Sample Frequency of Ratings in					Mean Scores	Non-Color Set Sample Frequency of Ratings in					Mean Scores	t
	1	2	3	4	5		1	2	3	4	5		
a	3	10	0	15	2	3.266	0	3	3	20	4	3.833	2.620[s]
b	1	12	8	9	0	2.833	2	9	6	10	3	3.100	1.018
c	0	4	3	17	6	3.833	0	4	5	15	6	3.766	0.314
d	1	16	6	7	0	2.633	9	15	4	2	0	1.966	2.960[s]
e	0	4	4	20	2	3.666	1	7	5	16	1	3.300	1.636
f	0	1	3	15	11	4.200	0	3	3	18	6	3.900	1.445
g	4	11	9	5	1	2.600	3	19	7	1	0	2.200	1.610
h	8	8	9	5	0	2.366	7	15	6	2	0	2.100	1.020
i	2	9	14	3	2	2.800	6	13	4	5	2	2.460	1.182

s: Significant at 0.05 level

Exhibit 8.

A Profile of Ratings in Agreement to
Nine Statements concerning
Color T.V.



* Full range of score is from 1 to 5.

arose might be explained that although prima facie evidence categorized the color T.V. as a snobbish product appealing to people of class and tastes, those in possession of it did not express the same opinion, or rather they were not sure it is. Not so surprising, that people who did not have a color set did not want to admit that color T.V. showed personal status.

Briefly, the rest of the statements were discussed.

1. It is an expensive luxury

Here, both sample were not sure.

2. It is the home cinema

Here, both unanimously agreed in the affirmative.

3. It is a way to enjoy modern living

The color set sample quite agreed but the non-color set sample was uncertain. Possibly people did not want to be called unmodern.

4. It can improve the atmosphere of family togetherness

Indeed, the highest scores of the mean occurred in this statement, for the color set sample it was 4.200 and for the non-color set sample it was 3.900. This was not surprising as was previously revealed in the role of members within the family in buying decision that approximately 45% of the respondents in the two samples combined had made it clear that the entire family was the unit of decision in purchase.

5. Present technology in color sets design is satisfactory

The non-color set sample did not agree to this, which was a typical characteristic of the late adopters who would rather wait and see. The scores of color set sample were in the "not sure" region, but very closely to the "do not agree" border. This might be a sign of the venturesomeness possessed by these people in trying out new things.

6. There are sufficient color programmes from the two broadcasting companies at present

Here, both the scores were negative. Maybe this was part of the reason why the tender for a third broadcasting company was invited from the public.

7. In the future, it can replace the role of cinemas

The scores by the color set sample was 2.800 and that by the non-color set sample was 2.466. This indicated films in theatres still maintained a definite though declining role in the opinion of the non-color set sample, but for the color set sample it was less obvious. It is interesting to note that the record high of annual attendance of cinemas in Hong Kong in 1966, amounting to 98,370,000 continued to drop to 88,600,000 in 1968 and 71,279,000 in 1972.[50] This meant a drop of 17,321,000 in the recent five years which was approximately 19.6% but would become 27,091,000, i.e. 25.7% from the record high. This drop

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50 香港年鑑，第廿五回，香港華僑日報印行，1972，p. 85.
Hong Kong 1973, Report for the Year 1972, Hong Kong Government Press, 1973.

might partly be an indication that the television screen was competing for viewers and beginning to take over part of the cinema business. Some tentative reasons might be that it wliminated some of the tedious procedures such as going to the theatre, getting the tickets, cost of show, and finding the right time.

Hypothesis 3 (The motivation of purchase is different between color set households and non-color households.) was only supported to a small extent.

The Dispositional & Socio-Economic Variables

This is the section where discriminant analysis is used. The variables which were capable of revealing the dispositional and socio-economic characteristics of the profile in the present color set users were made to compare and contrast with that of the non-color set users. These variables, nine of them in total, are discussed first and followed by a mathematical section in the final presentation.

(A) Dispositional Variables:

1. Print Readership (Questions 10 & 11)

Readership was confined not only to daily newspapers read but also to other magazines and periodicals, which in some way would furnish the readers with knowledge of events that kept occurring in the world today. It was from this

unfathomable source of information that some people find the media useful and valuable to make life more wholesome. It could be hypothesized differences in this attitude would account for those who kept abreast with events that happen around them and adapt themselves to the changing situations. Thus print readership was considered a relevent effect, (see Exhibit 9, 10 & 11).

The mean scores for the color set sample and the non-color set sample were 5.222 and 3.852 respectively. The dispersion of the scores for the color set sample was more wide spread, with two respondents scoring the maximum, but for the non-color set sample, the dispersion was more clustered over a narrow range at the centre. This meant the color set people kept themselves better informed. The computation of the print readership score was shown in footnote below.*

2. Social Integration (Question 12)

This was seen as an important factor concerning how people integrate themselves among groups to which they would be likely to receive informations, to interact, to

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* Print Readership Score = Score in Newspaper Issues
+ Score in Subscription for Magazines and Periodicals

Exhibit 9.

No. of Newspaper read per day

No. of Issues	Scores	Frequency Color Set Sample	Non-Color Sample
None	0	0	0
One	1	4	4
Two	2	7	13
Three	3	12	7
Four or above	4	7	6
Total		30	30

Exhibit 10.
No. of Magazines and Periodicals
Subscribed per Month

No. of Subscription	Scores	Frequency Color Set Sample	Non-Color Sample
None	0	6	12
One	1	7	10
Two	2	8	7
Three	3	3	0
Four	4	3	0
Five or above	5	3	1
Total		30	30

Exhibit 11.

Print Readership Scores

Scores	Color Set Sample Frequency	Mean Score*	Non-Color Set Sample Frequency	Mean Score*
0	0		0	
1	3		1	
2	1		0	
3	2		0	
4	9		2	
5	5		10	
6	6		15	
7	1		2	
8	1		0	
9	2		0	
Total	30	5.222	30	3.852

* Adjusted by a factor of 10/9 to make the maximum score to be 10. Hereafter, adjustment would be applied to all the mean scores.

attend to the accepted group norms and to influence others during interaction with members. This was explored by the investigation of membership in clubs or societies to which the respondent or the family members belonged (see Exhibit 12).

The mean scores for the color set sample and the non-color set sample were 3.750 and 1.750 respectively, which meant that the people in the former group were more socially integrated than their non-color counterparts.

3. Leisure Pattern (Question 13)

Since different types of people had different patterns in spending their leisure time, it was reasonable to ask whether there would be any difference between the groups. This was investigated indirectly by asking respondents to check four of the most common activities which they and/or their families would enjoy.

To quantify this, weights were attached to each activity which was classified into indoor versus outdoor; and participative versus non-participative activities. These two were finally derived by use of a continuum along which one extreme was the "indoor and non-participative" bearing the lowest score, while the other end was "outdoor and participative." (see Exhibit 13 & 14)

The mean scores for color set sample and non-color set sample were 4.579 and 4.368 respectively, which showed

Exhibit 12.

No. of Clubs or Societies to which respondents or family members belong

		Frequency			
	Score	Color set Sample	Mean Score*	Non-Color Sample	Mean Score*
None	0	11		19	
One	1	7		5	
Two	2	3		4	
Three	3	4		0	
Four or above	4	5		2	
Total		30	3.750	30	1.750

* Adjusted by a factor of 10/4

Exhibit 13

Leisure Pattern from the Most Common Activities usually enjoyed

		Frequency	
	Weights	Color Sample	Non-Color Sample
Going to Cinemas	1	18	21
Going to restaurants/ chatting	2	17	14
Mah-jong	2	13	7
Watching T.V.	1	24	27
Going to concerts & dramas	1	8	8
Picniking	5	12	13
Sight-seeing in large companies	4	10	6
Watching ball games	4	4	5
Sports	5	5	5
Horse/greyhound racing	3	4	6
Others	(1 - 5)	0	1

Exhibit 14.

Leisure Pattern Scores

Scores*	Frequency: Color Set Sample	Mean Score**	Non-Color Set Sample	Mean Score**
4	0		2	
5	5		1	
6	6		2	
7	6		4	
8	4		9	
9	5		6	
10	1		2	
11	3		2	
12	1		0	
13	0		0	
14	0		2	
15	2		0	
16	1		0	
Total	30	4.579	30	4.368

* possible score range is from 4 to 19

** Adjusted by a factor of 10/19

Exhibit 15.

Types in Homeownership

	Scores	Frequency: Color Set Sample	Non-Color Set Sample
Bought outright	8	17	7
Bought on installment	6	3	3
Rented	2	8	19
Others	4	2	1
Total		30	30

little difference. This might be the reason that in a place like Hong Kong where land space is very limited and coupled with a worsening transportation problem, the common activities of the citizens tend to become uniform.

(B) Socio-Economic Variables:

1. Asset Ownership (Question 14 & 15)

First, housing in term of the ownership and acreage was considered. This was a consequence of the land and space in demand by four million people. Usually this was treated as a primary family consideration for settlement in Hong Kong. This analysis was handled by (a) home ownership and (b) the total space available, (see Exhibit 15 & 16).

Second, the ownership of other appliances and more expensive items was investigated. The score of this when combined with home ownership and acreage amounted to a score in Asset Ownership, (see Exhibit 17 & 18).*

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* Score in home ownership and acreage = score in home ownership (2 to 6) + score in acreage (1 to 4)

Score in Asset Ownership = Score in Home Ownership & Acreage (6 to 24) 2 + Score in Appliance Ownership (1 to 15)

Exhibit 16.

Scores in Home Space

	Scores	Frequency: Color Set Sample	Frequency: Non-Color Set Sample
Below 300 sq. ft.	1	0	5
301 - 500 sq. ft.	2	7	15
501-1,000 sq. ft.	3	7	7
1,001 or above	4	16	3
Total		30	30

Exhibit 17.

Appliance Ownership

	Scores	Frequency: Color Set Sample	Frequency: Non-Color Set Sample
Automobile	1	24	5
Radio	0.5	29	29
Cassette/tape-recorder	0.5	28	20
Refrigerator	1	29	29
Air-Conditioner	1	21	3
Phonograph	1	25	23
Camera (still)	0.5	26	22
Washing Machine	1	25	15
Rice-Cooker	0.5	30	29
Water Heater	1	25	8
Elect./Gas range	1	24	16
Cine-camera	2	8	0
Vacuum Clearner	2	12	0
Floor Polisher	2	11	1

Exhibit 18.

Asset Ownership Score

Color Set Sample			Non-Color Set Sample		
Score	Frequency	Mean Score*	Score	Frequency	Mean Score*
14	4		4	2	
15	1		5	1	
17	1		6	2	
18	1		7	4	
22	1		8	9	
23	1		9	6	
25	1		10	2	
27	2		11	2	
28	1		12	2	
29	3				
30	1				
32	2				
35	4				
36	1				
37	3				
38	1				
39	2				
Total	30	7.196		30	4.440

* Adjusted by a factor 10/39

Exhibit 19

Age of Household Head

		Frequency			
	Score	Color Set Sample	Mean Score*	Non-Color Set Sample	Mean Score*
20 or below	1	0		0	
21 - 30	2	4		1	
31 - 40	3	6		2	
41 - 50	4	10		17	
51 - 60	5	2		8	
61 or above	6	8		2	
		30	7.666	30	7.110

* Adjusted by a factor 10/6

The purpose here was to see whether there was any relationship between (a) living conditions and (b) possible patterns in the purchase of the appliances with the possession of a color T.V. set. Exhibits 15 & 16 showed that most of the respondents in the color set sample did own their homes which were larger in acreage. Exhibit 17 & 18 showed that of all the appliances listed, some did not correlate with the two factors. The reason for this lack of correlation is that the markets for these items have nearly reached saturation and further purchase would only be used for replacement. Also the lowest score for the color set sample was 14 which happened to be exactly the highest for that of the non-color sample. The mean scores were 7.696 and 4.440 respectively for the color set and non-color samples. The difference was obvious.

2. Age of Household Head (Question 16)

This was included because at different stages of a family life cycle, different patterns arise to meet the needs of the family.[51] The results are shown in Exhibit 19, but the mean scores of the two samples seemed to center on the ranges of 41 to 50. This possibly might be a result that the samples were chosen from classes of secondary

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[51] William J. Stanton, Fundamentals of Marketing, 3rd ed. 1964, McGraw-Hill Book Co. pp. 135-136.

schools where the students were expected to be at ages of 16, 17, 18 and 19.

Marital Status (Question 17)

This was found to be of no difference between the two samples, i.e. they were all married, so not included in the analysis.

3. Number of Household Members less than 18 (Question 19)

This was again related to the family life cycle, but it could be expected that children as defined to be less than 18 years of age would sometimes exert influence upon parents in purchase of a certain item that might be of higher interest to the children.

The mean scores for the color set sample and the non-color set sample were 4.200 and 4.800 respectively (see Exhibit 20). This meant that both samples had an average three to four children under 18, and the difference between the mean scores was not significant.

4. Total Number of Wage Earners in Household (Question 22)

This was included because the higher the number of wage-earners, the more diversified are the streams of incomes from various sources. This has the advantage of a built-in assurance for stability, so that consumption might be more casual even for large ticket items, such

as a color T.V. set.

The mean scores for the color set sample and the non-color set sample were 7.000 and 6.665 respectively (see Exhibit 21), which meant that the average was about three wage-earners for each group.

5. Social Status Index (Question 20 & 21)[52]

This was a compounded variable of two independent variables, namely occupation and education. This was used to determine the social class position for the reason that although income might be the same people with different educational background and job environment would probably differ in ways of spending their income.

In this study, the occupation of both the household head and another wage-earner were considered, such that both would carry the same weighting and in case of retirement of the household head, the other would take on full weight. This occupational score was then combined with scores on education, but this time the household head being considered alone, for the reason that occupation was more easily observable by others but not the level of

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[52] Gano S. Evans, Constructing a Consumer Profile: How a Shopping Center Can Use Survey Research in its Trading Area. Research Report No. 25, New York: International Council of Shopping Centers, Inc., 1970, Reprinted 1972.

Exhibit 20.

No. of Children under 18

		Frequency			
	Scores	Color Set Sample	Mean Score*	Non-Color Set Sample	Mean Score*
None	0	7		2	
One	1	7		9	
Two	2	5		7	
Three	3	4		3	
Four	4	1		5	
Five or above	5	6		4	
Total		30	4.200	30	4.800

* Adjusted by a factor of 10/6

Exhibit 21.

No. of Wage-Earners

		Frequency			
	Scores	Color Set Sample	Mean Score*	Non-Color Set Sample	Mean Score*
One	1	4		4	
Two	2	9		7	
Three	3	6		14	
Four or above	4	11		5	
Total		30	7.000	30	6.665

* Adjusted by a factor of 10/4

Exhibit 22

Occupational Designation

Code	Classification	Score
a	Executives of large and medium concerns	7
b	Professionals	6
c	Semi-professionals, administrator of small concerns and self-employed	5
d	Clerical, sales and technical workers	4
e	Sillled workers	3
f	Semi-skilled workers	2
g	Unskilled workers	1

education. The occupational and educational score are shown in Exhibits 22, 23 and 24, the computation in Exhibit 25, and the final Social Status Index results in Exhibit 26. Although in Hong Kong, no accepted principle in the computation of a social status index exists, the above is a modified attempt toward this end.

From Exhibit 23, we could observe that both the household heads and other wage-earner of the color set sample had occupations higher in scores than the non-color set sample. On the education side (see Exhibit 24), the household heads of the color set sample also received more formal education than their non-color set counterparts. Although most had finished secondary schools in both groups, The non-color sample had no higher than secondary education, whereas the color set sample had 26.7% (=7/30) in the college or higher education level. Finally, from the combination in Exhibit 26, it is clear that the distribution between the two samples, as all of the color set sample were within the upper divisions, viz. social class III to V, while the non-color set sample never reached higher than social class III. The mean scores were shown respectively to be 6.800 and 4.267 for the color set and non-color set samples.

Exhibit 23.

Occupation of Household Head
&
Another Wage-Earner

	Frequency			
	Color Set Sample		Non-Color Set Sample	
Code	Household Head	Another Wage-Earner	Household Head	Another Wage-Earner
a	5	0	0	0
b	5	4	2	0
c	11	16	6	4
d	6	5	7	10
e	1	0	11	7
f	0	0	3	2
g	0	0	1	2
Total*	28	25	30	26

* Total do not add up to 30 either because of retirement or no other wage-earner.

Exhibit 24.

Education of Household Head

		Frequency	
	Scores	Color Set Sample	Non-Color Set Sample
Primary school	1	1	13
Secondary school	2	22	17
College	3	4	0
Post College	4	3	0
Total		30	30

Exhibit 25.

Computation of SSI

Factor	Scores	Score Range	Weights	Score x Weight**
Occupation	X	2 - 14	0.5	0.5X
Education	Y	1 - 4	1.0	+ Y
				SSI

** Possible SSI range is 2 to 11, and in case there was only one score, i.e. either the household head or another wage-earner, then it would take on full weight instead.

6. Total Monthly Income (Question 23)

This is an important variable which enables the household to live in such a pattern that may choose, with necessities and/or luxuries opened to them. The total monthly value was taken because we were concerned with the household as a unit and second, in Chinese families, resources were usually pooled for mutual benefits of its members without discrimination against one or the other.

The results shown in Exhibit 27, can easily be seen from the mean scores of 6.857 and 3.286 respectively for color and non-color samples.

Exhibit 26.

Social Status Index (SSI)

Social Class	SSI Score Range	Final Score	Frequency			
			Color Set Sample	Mean Score*	Non-color Set Sample	Mean Score*
I	2 - 3.5	2	0		4	
II	3.6 - 5.5	4	0		18	
III	5.6 - 7.5	6	21		8	
IV	7.6 - 8.5	8	6		0	
V	9.6 - 11	10	3		0	
Total			30	6.800	30	4.267

* Already adjusted in final scores

Exhibit 27.

Total Monthly Income

	Scores	Frequency			
		Color Set Sample	Mean Score*	Non-color Set Sample	Mean Score*
Below $1,000	1	0		4	
$1,001 - $2,000	2	0		19	
$2,001 - $3,000	3	9		2	
$3,001 - $4,000	4	6		4	
$4,001 - $5,000	5	5		1	
$5,001 - $6,000	6	2		0	
$6,001 or above	7	8		0	
Total		30	6.857	30	3.286

* Adjusted by a factor of 10/7

Discriminant Analysis in Theory

Discriminant analysis basically aims at four objectives:

1. Testing for significant differences among two or more a priori defined groups, assuming group covariation and dispersion are equal and the distribution are multinormal.

2. Determining which variables account for most of such intergroup differences, in an average profile.

3. Finding a linear function of the variables which represent the groups, by mzximizing among-group relative to within-group variations.

4. Classifying individuals in the defined groups by this function obtained.[53]

The linear discriminant function can be expressed as:

$$Z = w_1x_1 + w_2x_2 + ... + w_nx_n \qquad (1)$$

where, x_i represents each of the independent variables while w_i represents the weight attached to each independent variable. Z will be score of the function.[54]

Suppose we have two groups, where $\bar{x}_{iI}$ are the mean scores of the ith independent variable of the group

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53 Green & Tull, Reaserch for Marketing Decisions, Prentice Hall Inc., Englewood Cliffs, N. J. 1970. Chapter 11.

54 Thomas S. Robertson & James N. Kennedy, "Prediction of Consumer Innovators: Application of Multiple Discriminant Analysis," Journal of Marketing Research, 1968 Vol. V, pp. 64-69.

designated by second suffix I, similarly, $\bar{x}_{iII}$ the mean scores of the other group II. Also σ_{iI} and σ_{iII} are the respective variances of this ith variable. Then we shall have:

$$w_i = \frac{\bar{x}_{iI} - \bar{x}_{iII}}{\sigma_{iI}^2 - \sigma_{iII}^2} \qquad (2)$$

where, convariance of variables is assumed to be zero, i.e. independent of one another.

So, with all the quantities in equation (2) computed from the samples and hence the value of w_i, the discriminant function is determined. The relative importance of the independent variables can be expressed as:

$$Y_i = w_i * (\bar{x}_{iI} - \bar{x}_{iII}) \qquad (3)$$

Now, although the individuals in groups are defined in an a priori manner, the classification of each can be checked by using equation (1). Suppose we substitute all the mean scores of the variables in group I and group II into equation (1) respectively, we shall obtain two equations:

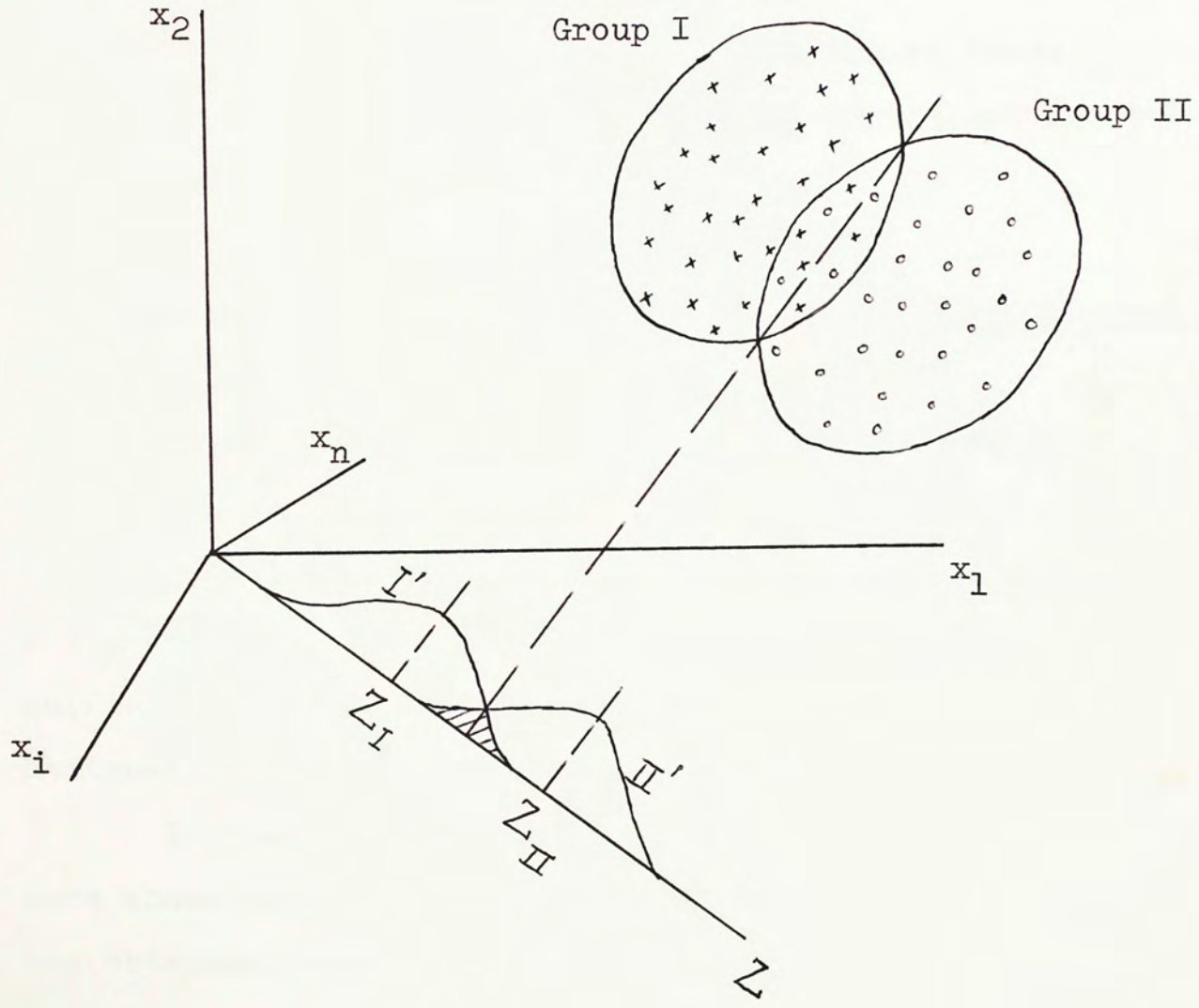
$$Z_I = w_1x_{1I} + w_2x_{2I} + ... + w_nx_{nI} \qquad (4)$$

and, $$Z_{II} = w_1x_{1II} + w_2x_{2II} + ... + w_nx_{nII} \qquad (5)$$

in which, Z_I and Z_{II} are two numerical values, condensing the two sets of n-dimensional spatial points onto a single axis, Z. Geometrically, it can be represented by Exhibit 28.

Exhibit 28.

Geometric Representation
of
Two-Group Linear Discriminant Analysis



Source: Green & Tull, <u>op cit</u>, p. 370.

Here, the small crosses and circles in the two ellipses are respondents having the characteristics of the group I and II, within the frame of reference represented by the n-dimensional axis of x_is, but condensed into a co-planar space represented by axis Z. If a straight line is drawn through the points of intersection of these ellipses the overlap is the shaded part of the univariate distributions I' and II''.

The Discriminant Function and Profile of the Dispositional and Socio-Economic Variables

In analysis of the results, mean scores of the color set sample and the non-color set sample were obtained for each dispositional and socio-economic variable. They are summarized in Exhibit 29. Hereafter, the second suffix I and II is used interchangeably with c and n, designating groups in color and non-color samples.

In the third column, in Exhibit 29, the weights were shown and from it, the linear discriminant function was obtained, namely:

$$Z = \sum_{i=1}^{9} w_i x_i$$

So, the profile in color T.V. set households was found by means of the discriminant analysis, but from the t-test applied to each pair of mean scores for each variable,

Exhibit 29

Mean Values of Characteristics, Discriminant Weights and Importance Values

Variables	Color Set Group Mean (n = 30) x_{iC}	Non-Color Set Group Mean (n = 30) x_{iN}	Weights w_i	Importance Y_i	$w_i x_{iC}$	$w_i x_{iN}$
Print Readership	5.222	3.852	0.1771	0.243[s]	0.9248	0.6822
Social Integration	3.750	1.750	0.1024	0.205[s]	0.3839	o.1791
Leisure Pattern	4.579	4.368	0.0581	0.012	0.2660	0.2537
Asset Ownership	7.196	4.440	0.3369	0.929[s]	2.4245	1.4960
Age	7.666	7.110	0.1022	0.057	0.7839	0.7270
No. of Children under 18	4.2000	4.800	-0.0268	0.016	-0.1126	-0.1286
No. of wage-earner	7.000	6.665	0.0337	0.012[s]	0.2359	0.2246
Social status index	6.800	4.266	0.7697	1.951[s]	5.2342	3.2837
Total monthly income	6.857	3.285	0.5098	1.820[s]	3.4954	1.6751
					13.5972	8.3481

[s] Significant at 0.05 level by t-test

only five, viz. two in the dispositional and three in the socio-economic category were statistically significant, and in order of importance they were: social status index, total monthly income, asset ownership, print readership and social integration.

Classification Power of the Discriminant Function

The discriminant function was found and the profile established, but how well did the raviables discriminate? To answer this question, compute:

$$Z_c = \sum_{i=1}^{9} w_i x_{ic}$$

and,

$$Z_n = \sum_{i=1}^{9} w_i x_{in}$$

then, Z_{cr} called the critical value was computed as:

$$Z_{cr} = (Z_c + Z_n) \div 2$$

Finally, the score on Z of each respondent in each a priori group was computed and compared with Z_{cr} (see Exhibit 29), which was 10.9726. For those scores having values greater than Z_{cr} would then be classified as belonging to the color set group and those less than Z_{cr}, the non-color set group. The results of this re-classification were shown separately first in distribution of actual score values for the two groups (see Exhibit 30), and secondly, in summarized form (see

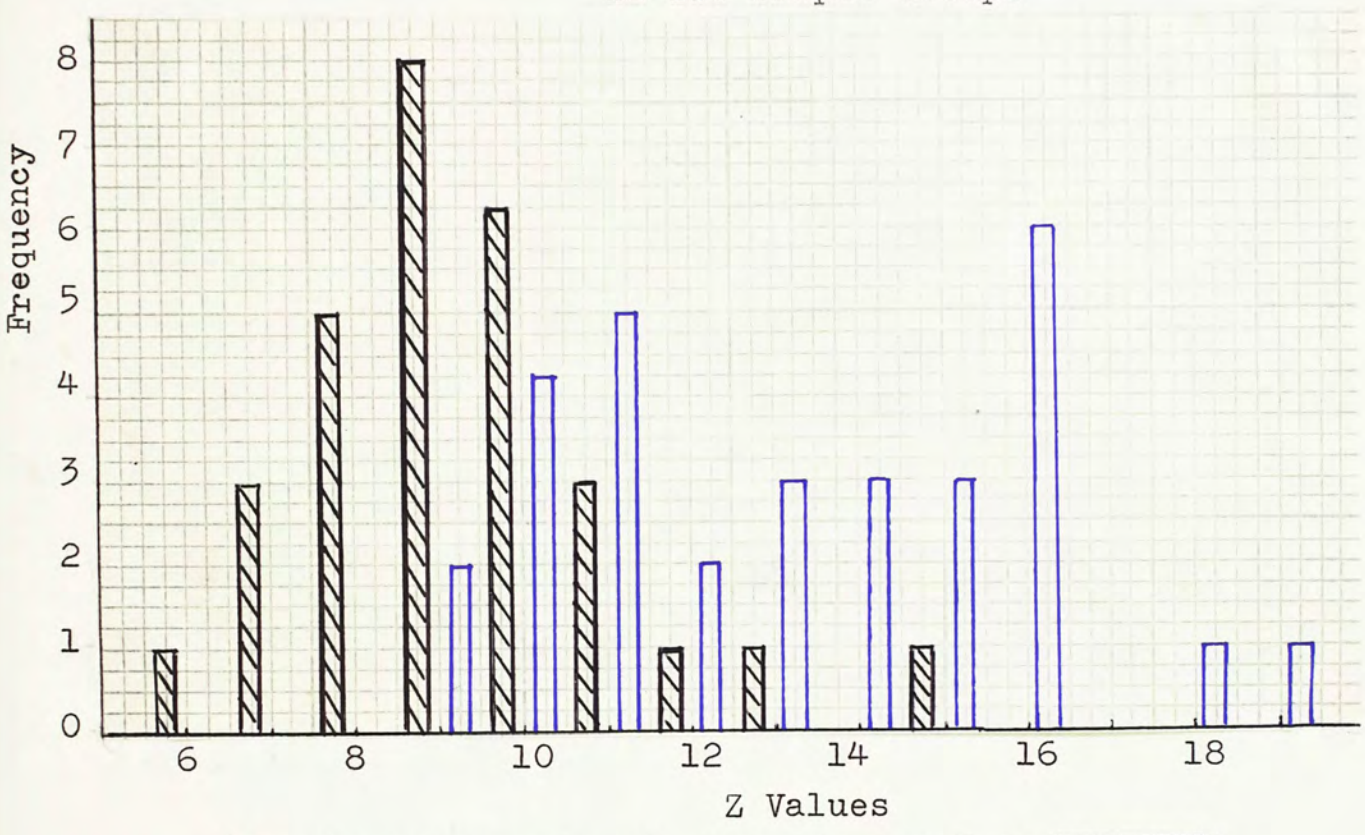
Exhibit 31) as described earlier in Chapter IV.

From Exhibit 31, it could be seen that the color set sample was 80% correctly classified by the function, while for the non-color set sample it was 73.3%, whereas the combined effect was 76.6% of correct classification which seemed satisfactory.

A F-test showed that difference between the two groups to be significant at 0.05 level, confirming that the difference between the two groups were really due to the effects attributable to the variables, included in the discriminant function. Hypothesis 4 (The dispositional and socio-economic characteristics are different between color set households and non-color T.V. households.) was thus supported and finally, we could say, with reference to the above review, that the major hypothesis (Color T.V. set households differ both in the economic and non-economic aspects from that of non-color T.V. set households.) was also affirmed.

Exhibit 30.

Degree of Overlap & Distribution
in Two Sample Groups



(in discrete range of unity from x.5 to $\overline{x.5 + 1}$)

Color Set Sample

Non-Color Set Sample

Exhibit 31.

Comparison of Hypothetical
with
Actual Classification

		Classified I	Classified II	
Actual	I	24 (80%)	6 (20%)	30 (50%)
	II	8 (26.7%)	22 (73.3%)	30 (50%)
				60 (100%)

Conclusion and Recommendation

As stated earlier in this study, the purpose was to develop a profile of the color T.V. set households in Hong Kong, the author felt that the results shown in the various sections were satisfactory and the mission was completed.

From the theoretical stand-point, the use of the present methodology was a compromise to the situational difficulties encountered during the first and second surveys, but nonetheless, a practical and effective means to achieve the end, considering the constraints of cost, time and effort. Although the color T.V. was chosen as the object in this empirical study, the various steps and methods of analysis would be readily adaptable to other products or services.

From the practical stand-point, the study explored the various dimensions in consumer behavior, such as product image, motivation, influence on purchase decision, dispositional and socio-economic characteristics. The results revealed in the details of the findings could be employed to show marketing practioners how they might improve efforts in planning more efficient promotional activities directed to the right targets. However, rather than to summarizing the findings, those who are interested in the results should refer to the relevent sections and exhibits.

Finally, as a word of caution, the author noted that many promotional activities employed at the present time by marketers were at variance with some of the findings in this survey. Whether this is due to the author's negligence or the marketer's lack of sophistication is a question of doubt that can only be clarified by further research on the specific aspects. If this study arouses management to have second thoughts on their present strategies, the author will feel that the original purpose of this study was accomplished.

-- E N D --

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APPENDIX

THE QUESTIONNAIRE (TRANSLATED FROM CHINESE)

Please use a (✓) to answer the following questions (unless specify.)

1. Do you have a T.V. set at home ? Yes ____, No ____.
2. It is a color set ____, black and white set ____, or both a color and a black and white set ____.
3. It is bought ____, rented ____, or given as a gift ____.
4. How old is your T.V. set ?

   1 yr. ____, 2 yr. ____, 3 yr. ____, 4 yr. ____, 5 yr. ____, 6 yr. ____. (If you have both a color and black and white, use the former in answering this question.)
5. Its size is about 26" ____, 22" ____, 20" ____, 19 ____, 17" ____, 15" ____, 14" ____, 13" ____ or 12" ____.
6. Please rate the importance of the following factors in the purchase of a color T.V. set by you.

	Completely Not Important	Not Important	Don't Know	Important	Extremely Important
a. Durability & reliability	____	____	____	____	____
b. Ease in use (e.g. on/off, brightness, volume etc.)	____	____	____	____	____
c. Color, fidelity	____	____	____	____	____
d. Picture sharpness & stability	____	____	____	____	____
e. Sound	____	____	____	____	____
f. Special designs (e.g. push-button, channel selection, swivel, remote control, all transistors, etc.)	____	____	____	____	____

g. Safety consideration (e.g. radiation) ____ ____ ____ ____ ____

h. Aesthetic outlook (e.g. cabinet) ____ ____ ____ ____ ____

i. Size ____ ____ ____ ____ ____

j. Brand reputation ____ ____ ____ ____ ____

k. Price Level ____ ____ ____ ____ ____

l. Maintenance/service ____ ____ ____ ____ ____

m. Methods of payment:

i, installment ____ ____ ____ ____ ____

ii. cash discount ____ ____ ____ ____ ____

iii. trade-in ____ ____ ____ ____ ____

7. In your opinion who in your family would have more influence on the decision to buy a color T.V. set ?

husband ____ husband & wife ____

wife ____ whole family ____

children ____ others (please specify) ____

8. Apart from household members, which of the following do you think exerts influence in the decision to buy. (choose 3)

friends ____ T.V. commercials ____

Advertisement in Newspaper ____ neighbours ____

relatives ____ magazines ____

advertisement in cinemas ____ salesman ____

showroom displays ____ others (please specify) ____

9. What is your opinion of the following statements concerning color T.V. ?

	Strongly Disagree	Disagree	Don't Know	Agree	Strongly Agree
a. It is a relatively new product	____	____	____	____	____
b. It is an expensive luxury	____	____	____	____	____

c. It is the home cinema ___ ___ ___ ___ ___

d. It shows personal status ___ ___ ___ ___ ___

e. It is a way to enjoy modern living ___ ___ ___ ___ ___

f. It can improve the atmosphere of family togetherness ___ ___ ___ ___ ___

g. Present technology in set design is satisfactory ___ ___ ___ ___ ___

h. There are sufficient color programmes from the two broadcasting companies at present ___ ___ ___ ___ ___

i. In the future, it can replace the role of cinemas ___ ___ ___ ___ ___

10. How many newspapers do you or your family read everyday ?

1 ____, 2 ____, 3 ____, 4 or above ____; None ____.

11. How many magazines or periodicals do you or your family subscribe to ?

1 ____, 2 ____, 3 ____, 4 ____, 5 or above ____; None ____.

12. To how many clubs or societies do you or your family belong ?

1 ____, 2 ____, 3 ____, 4 or above ____; None ____.

13. The most common activities for you or your family are (please choose 4)

going to cinemas ____
going to restaurants/chatting ____
mah-jong ____
watching T.V. ____
going to concerts or dramas ____
picniking ____
sight seeing in large companies ____
watching ball games ____
sports ____
horse/grey hounds racing ____
others (please specify) ____

14. Your present premise is bought ____, rented ____,
bought on installment ____, or others (please specify) ____.

Its area is about
300 sq. ft. or below ____
301 - 500 sq. ft. ____
501 - 1,000 sq. ft. ____
1,000 sq. ft. or above ____

15. Which of the following appliances do you have at home ?

automobile	____	washing machine	____
radio	____	electric cooker	____
recorder/casette	____	water-heater	____
refrigerator	____	ranches	____
air-conditioner	____	movie camera	____
gramophone	____	floor polisher	____
camera (still)	____	vacuum clearner	

16. Age of the household head is about

20 or below ____
21 - 30 ____
31 - 40 ____
41 - 50 ____
51 - 60 ____
60 or above ____

17. Marital status of household head:
married ____
single ____
divorced ____
others ____

18. Household members total

2 ____, 3 ____, 4 ____, 5 ____, 6 ____, 7 or more ____.

19. Less than 18 years of household members total.

1 ____, 2 ____, 3 ____, 4 ____, 5 or more; None ____.

20. Number of wage-earners total

1 ____, 2 ____, 3 ____, 4 or above ____.

21. Occupation of household head
(please specify position held) _____

Occupation of another wage-earner in family is _____.

22. Education of household head is about:

Primary ____
secondary ____
college ____
post-college ____

23. Total monthly income of household is about:

below $1,000 ____
$1,001 - $2,000 ____
$2,001 - $3,000 ____
$3,001 - $4,000 ____
$4,001 - $5,000 ____
$5,001 - $6,000 ____
$6,001 or above ____

If your T.V. set is a black and white, do you intend to buy a color set within 2 years.

very probable ____
not probable ____
don't know ____

-- E N D --

THANK YOU VERY MUCH

動狀況、閒暇消遣方式、在社會經濟方面，自變數為資產、年齡、未成年家庭成員人數、有入息家庭成員人數、社會地位指數及每月總收入等。經分析後有統計顯著性的自變數依次為：社會地位指數、每月總收入、資產、刊物閱讀量及社會活動狀況。最為可靠的，是以項線性差別函數之辨別準確性百份率達七十六点六。

總括以上分析，作者結論認為彩色電視用户在經濟及能源方面均有別於黑白電視用户的假設確能成立。若各項建議能為管理階層提供若干解決實際問題的方法，則作者是項研究对市場及推廣方面或不無貢獻。

等。

(四)就人為或非人為外來因素言，在人為因素中，朋友、親戚二項最為重要了，在非人為因素中，依次為窗櫥陳列、电视广告及報紙廣告。

(五)就彩色和黑白用户二者之購買動机言，黑白机用户較彩色机為新產品，但彩色机用户則否；至於彩色机是否能表現成就的地位，則前款用户並不同意，後款用户更在堅認之列。

(六)就個性與社會經濟言，筆者曾以九個自變數作一線性差別分析：在個性方面，自變數為刊物閱讀量、社會活

於彩色及黑白电视用户。調查結果，可用的问卷計共三百六十二份，其中彩色用户佔百份之九点七，黑白用户佔百份之九十点三，最後再從可用问卷中，以隨机抽樣法各抽第三十份進行統計分析，分析結果发现有下列各点：

(一)就產品心像(意)試驗所顯示的特性言，彩色及黑白用户二者面对彩色机在下列四項有不同的看法：彩色真實感、安全问題、尺碼大小及品牌信譽。

(二)就購買彩色机的決策者言，家庭各成員的意見对二者都具相同的影响性。

(三)就外来因素言，最重要者為明文、窗橱陳列及親戚

筆者在調查過程中曾遭遇到兩項困難，第一、各種彩色电祝机品牌的入口商很不願意提供用户的名单及地址，因此無法使用分層抽樣法，乃轉而採用面談式隨机抽樣方法。第二、面談式隨机抽樣法是在幾個大的公園中進行，但結果未能達成最大的速度，最少的費用而被迫放棄，但部份問卷結果仍被採用作最後分析。最後筆者採用比較主觀的抽樣方法而獲致良好的效果，其法是在十個著名的私立中学內，以高中学生的家庭為对象進行意見調查，多數問題係採用二項選擇法、多項選擇法、順序選擇法及分等問題法，至於自由回答法則未予採用，同時，問卷是適用

項过程可分為四度空間：(一)產品、(二)購買者、(三)社會及(四)社會文化。在產品空間中有四個因子，即相对利益、逼真性、複雜性、可分性及傳播性。購買者空間又可分為兩度空間，其一是根據市場接受者的到達時間加以分類，如先鋒接受者、早期接受者、初期大眾接受者、後期大眾接受者及遲延者，其二則根據以上各接受者階層的個人特性、人格、價值觀念、社會及傳播行為。社會空間指任何新產品的傳播对以前的生活狀態都有某種程度的影响。總括上述，佐治、克茨納(George Katona)認為經濟的心理二者要相輔相成才能解釋最基本的人類行為。

前三者尤為適用於本研究。

所謂創新傳播過程，乃是以購買者個人心理過程來研究接受過程的一種概念，簡單的說，就是個人從最初獲悉創新開始，直到最後接受為止，所經歷的心理過程。艾佛勒、羅傑斯（Everett Rogers）認為此項過程包括下面五個階段：

(一)意識階段——購買者最初獲知創新品的存在；(二)興心階段——購買者想知道創新品对自己有無益處；(三)評估階段——比較創新品及其他可供利用品(如代替品)；(四)試用階段——在最後接受之前，以實際試用的方法來試探該產品的理想程度；(五)接受階段——全面接受。吾人若以物理過程觀之，則此

場管理兩方面。在個体經濟理論中，人的行為是被假定為完全合乎理性，所謂「經濟人」是。企業家被假定為追求利潤最大化的單一目標。在總体經濟分析中，对於消費函數有幾種不同的假說。如(一)絕对所得說、(二)相对所得說、(三)恒常所得說等。以上各種假說都有其共通点，即消費為所得的函數。唯經濟学並未解答一個實踐者所要知道的「應該做」应用行為科学來解釋任何無理性的事情。

堅什麼的問題，市場学在這方面給予經濟学以補充，且以

在新產品的市場研究方面，約有三項理論：(一)決策過程說、(二)產品週期說及(三)創新的傳播過程說，而收奏又較

定其本身為消費者所能接納的程度。作者假設彩色電視机為一種新產品，研究其與消費者行為間的關係，並比較黑白電視机用户及彩色電視机用户对此種產品的意見，希望由此提供一些較為實用的意見，擴大推廣的效率。

「顧客本位」為市場活動的真諦，也是市場活動的最高原則，漠視顧客利益的高压活動雖然能獲利於一時，但終將衰退而無法生存，唯有適應消費者的需求及發展消費者的潛在慾望，才是長期獲利的保障，此為市場調查的基本價值所在。

市場調查有多種方法可行，大体上可分為經濟学與市

彩色電視用户型態研究

張煜鏗

香港自一九五七年開始有電視廣播，一九六七年成立第一家無線電視台，此後電視机銷量迅速增加，彩色电视並隨之興起。據一九七二年官方統計，黑白电视机約為七十八萬具，彩色电视机在短短五年間亦已增至三萬九千具之多。惟香港政府对电视的發展，並沒採取放任政策，而是有計劃的加以扶持及推廣，因此種大眾媒介对社會的影响至深且巨，能直達每一家庭，对兒童影响力尤為巨大，因而不能不加以注意。

查新產品或技術創新在市場方面的適应力，往往能決